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ABSTRACT

Within the context of programmatic research and an empirical systems approach, an interactive computer system was designed for use in counselor education and assessment. This report first describes the identification of several discrete counseling styles and the development of the Counselor Repertoire Developments System (CRD) to analyze the counseling task, and then concentrates on the design, development, and evaluation of an integrated subsystem of CRD--the Sequential Automated Monitoring of Counselor Repertoire Development (SAMOCORD). A brief overview of requirements for SAMOCORD implementation is provided. The basic objectives of the project are described: the development of a testing program called Program Self-Assessment; the development of a counseling simulation program called Program Counseling Exercises; the development of an interactive process analysis program called Program Interview Analysis; and the development of a computer program for use on remote terminals to provide a linguistic analysis of interview content called Program Interview Content Analysis. The remainder of the report describes the developmental procedures, evaluative activities, and implications for counseling curriculum development and research. (Author/SH)

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THE DEVELOPMENT AND EVALUATION OF AN INTERACTIVE COMPUTER SYSTEM FOR USE IN COUNSELOR EDUCATION

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The Development and Evaluation of an Interactive Computer System for Use in Counselor Education:

Sequential Automated Monitoring of Counselor Repertoire Development

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This project reflects current conceptual and procedural developments in the fields of counseling and educational psychology. At the conceptual level it embraces the counseling task analysis research of Zimmer et al (1967, 1968, 1970). At the procedural level it applies a contingency management, performance criteria model to counselor education (Pepyne, Zimmer and Hackney, 1969).

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SUMMARY

This project emanated from a shared dissatisfaction with current educational practices (Arnold, 1962; Krumboltz and Thoresen, 1968; Delaney, 1969) and research designs (Allen, 1967; Hosford and Briskin, 1969; Thoresen, 1969) in the field of counseling. Within the context of a continuing process of programmatic research (Zimmer, Pepyne, Hackney & Crowley, 1969) and an empirical systems approach to curriculum development in counselor education (Pepyne, Zimmer & Hackney, 1969) this project was dedicated to the design, development and evaluation of an interactive computer system for use in counselor education and assessment.

A computer system for the Sequential Automated Monitoring of Counselor Repertoire Development (SAMOCORD) was produced through the development and evaluation of four separate but related components:

1. Program Self-Assessment -- A trainee-computer interactive testing program which administers and scores tests for a large number of topic areas. From a bank of a variety of verified item pools (25 items each) the computer has been programmed to select by stratified random sampling a great variety of criterion referenced, confidence weighted, 5 item tests of equivalent form. (Correlation with criterion; r = .84)

2. Program Counseling Exercise -- A simulated social interaction program in which the computer assumes the role of a disturbed client and responds differentially in terms of the trainee's accuracy in operating within a given counseling style. Upon completion of the exercise, the computer prepares a diagnostic analysis of the trainee's performance. (Discrimination of criterion trained vs. criterion untrained groups; F=43.025; p<.001)

3. Program Interview Analysis -- A supervisor-computer interactive program which allows a supervisor, while observing an interview, interview segment or recording or typescript thereof, to code each discrete counselor response. Using these codings as input the program produces an interaction process analysis with a diagnostic statistical summary of the accuracy of the counselor's performance with respect to a criteria style. (75% agreement with generalized criterion referent)

4. Program Interview Content Analysis -- A program which accepts an uncoded typescript of a counseling interview as data and produces separate summaries, concordances and linguistic analyses of counselor and client verbal behavior in the interview. (100% agreement with manual coding and analysis)

These system components and the general context within which they are designed to operate represent an attempt to bring the counseling process and education of practioners under the aegis of predictive science. The SAMOCORD system represents an effort to bridge the gap between counselor education and counseling practice - between counseling theory and counseling practice - and provides a conceptual framework and verified tools to facilitate the move from capricious art to predictive technology in counseling and counselor education.

CHAPTER I

IMPLEMENTING CURRICULUM DEVELOPMENT IN COUNSELOR EDUCATION

The Problem

The development of verifiable and effective models and strategies for the education of new counselors and the professional improvement of practioners continues to pose a challenging problem to counselor educators and supervisors. Traditionally, counselor education programs have employed a two phase approach: (a) cognitive experiences such as lectures, readings and discussions in which trainees obtain an understanding of philosophies, theories, facilitating conditions, techniques, etc. thought to be needed for adequate counseling and (b) practicum experiences in which the trainee is thrust into interaction with real clients in the hope that generalization from knowing to doing will occur. As Delaney (1969) has observed, "The traditional counseling practicum is a 'hit and miss' affair with the supervisor hoping the counselor candidate has 'hit' all the experiences with clients necessary to help him develop the behaviors for good counseling, and hoping the student has 'missed' clients he could actually harm through incompetence p. 183 ." Arnold (1962) cryptically summed up the state of the art by asserting that counselor educators "simply do not know what they are doing or how to evaluate it p. 189 ."

A Proposed Research and Development Model

What appears to be needed in counselor education are systematic procedures for providing trainees with a variety of empirically validated, appropriately sequenced, learning experiences for the achievement of operationally defined performance objectives. Answers to questions such as those posed by Krumboltz and Thoresen (1968) are crucial to the development of such procedures:

"1. What are the performance objectives in counselor education?

2. What experiences, in what sequence(s), will best (in terms of efficiency of resources and effectiveness) produce these performances?

3. What are the possible interactive factors (trainee characteristics, entering skills, client behavior and characteristics, environmental variables etc.) which require differential training procedures?"

Answers to these questions, at least the first, would be expected to have been appropriately delimited by counseling research. However, until recently efforts to define and investigate the counseling task have focused on hypothetical constructs relating to ambiguous assumptions concerning the counselors responsibility in establishing a social-emotional climate with the counseling setting. Not only were these constructs vague but they defied objective measurement. Myriad attempts to evaluate counselor and trainee manifestations of such constructs as accurate empathy, positive regard, congruence, etc. have been made (Halkides, 1958; Barrett-Leonard, 1959; Strupp, 1960; Truax, 1961; Carkhuff and Truax, 1965a, 1965b; Truax and Carkhuff, 1965; Martin, Berenson and Carkhuff, 1966; Berenson, Carkhuff and Myrus, 1966; Gross and DeRidder, 1966; Holder, Carkhuff and Berenson, 1967; Vander Veen, 1967; Demos, 1967; Carkhuff and Alexik, 1967; Berenson, Mitchers and Moravec, 1968). All of these efforts, however, are characterized by at least two fatal inherent weaknesses: (a) The assumption is made that specific constructs are operating and then raters of similar persuasion are instructed in procedures for assessing them; and (b) although rater agreement is frequently high, serious questions must be raised concerning the contaminating effects of rater bias (Hackney, 1969) and self-fulfilling expectations (Rosenthal and Jacobsen, 1969). In 1967 Allen felt forced to conclude that "counseling is becoming a process in search of a consequence, a cause earnestly seeking an effect." The need in counseling was not more research but higher quality research characterized by (a) relevance, (b) disciplined inquiry, (c) new research models and (d) a systems orientation (Thoresen, 1969).

Performance Objectives

A recent review of counseling research (Hosford & Briskin, 1969) suggests that the profession may be "entering a period of new and creditable research with a consequent closing of the gap between relationship and behavioral therapy p. 187 ."

A growing body of evidence reveals that counselors, by means of their verbal repertoire within the counseling setting provide discriminative stimuli (Dulaney, 1961; Matarazzo, Saslow & Paries, 1961; and Skinner, 1957) and contingent reinforcement (Ball, 1953; Crowley, 1970; Krasner, 1958; Ince, 1968; Kennedy & Zimmer, 1968; Pepyne, 1968; Ryan & Krumboltz, 1964; Salzinger & Pisoni, 1960; and Waskow, 1962) which elicit, shape and maintain client verbal behavior. Verbal conditioning studies (Pepyne & Zimmer, 1969) social learning research (Bandura & Walters, 1963) and factor analytic investigations of counselor-client verbal interactions (Zimmer & Park, 1967; Zimmer & Anderson, 1968; Zimmer, Wightman & McArthur, 1970) provide new theoretical perspectives and suggest innovative applications to both the counseling process and the education of counselors who will engage in this process. Specifically verbal conditioning, social modeling and factor analytic paradigms separately and collectively provide promising vehicles for objective assessment of the counseling task and for bridging the gap between conflicting counseling orientations, between counseling theory and learning theory and between counseling theory and practice.

A Behavioral Analysis of the Counseling Task

Operating from a behavioral perspective, Strong (1964) contended that:

> ...the interview can be viewed as reciprocal verbal behavior usually between two people. The counselor talks then the counselee talks, then again the counselor, and so on. Generally, other behaviors such as nodding, smiling, and looking are liberally added to the on-going interlocking verbal behavior (p. 660).

Within this frame of reference the effective counselor is conceptualized as one who (a) arranges stimulus conditions conducive to ideosyncratic client verbalizations, (b) differentially reinforces responses deemed situationally appropriate and (c) extinguishes (does not reinforce) responses deemed inappropriate to the enabling and terminal behavioral goals of the specific counseling relationship. The consequent modification of the content, style and mood of the clients behavior in the counseling session is assumed to generalize to other modes of behavior external to the counseling session. The essence of this model of the counseling process is illustrated in simplified schematic form in Figure 1.

SCHEMATIC MODEL OF THE COUNSELING PROCESS

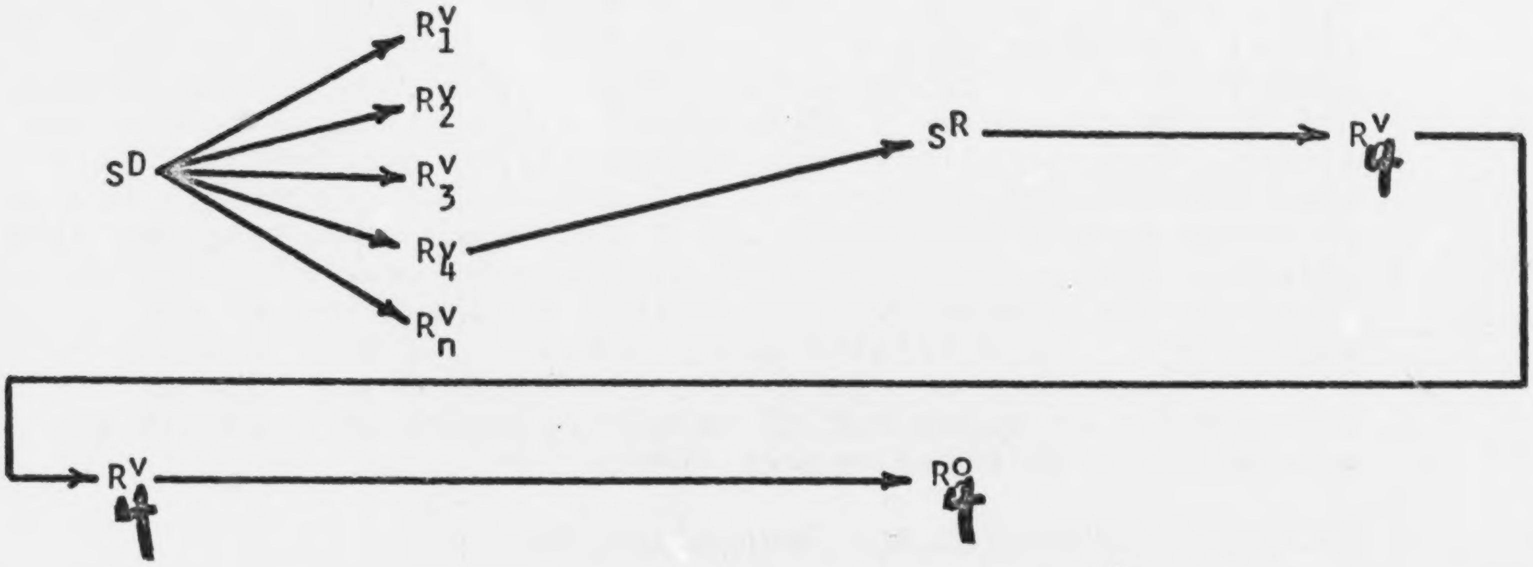

Figure 1

Skinner (1957) presented a verbal behavior paradigm with high utility for a behavioral analysis of the counseling task. Skinner suggested that each verbal response by a participant in a conversational dyad serves a dual function: (a) each response possesses reinforcing properties for the response it follows and (b) discriminative properties which influence responses which follow it. This paradigm illustrated in Figure 2 implies that the counseling process is a dynamic reciprocal interaction of counselor-client behavior.

VERBAL BEHAVIOR PARADIGM OF
COUNSELOR CLIENT INTERACTION

$$\begin{tikzcd}
\text{Counselor:} & S^D \arrow[r, dashed] & R_1 \arrow[d, dashed] & S^{R:D} \arrow[r, dashed] & R_3 \arrow[d, dashed] & \\
\text{Client:} & & S^D \arrow[r, dashed] & R_2 \arrow[u, dashed] & S^{R:D} \arrow[r, dashed] & {}
\end{tikzcd}$$

Figure 2. Each verbal response possesses both discriminative and reinforcing properties for the other participant.

Through the use of modern research technology such as high speed computers, audio and video recording equipment etc. it has become practicable to take samples of counselor-client verbal interactions and to systematically analyze so-called facilitating constructs and their inherent factor structures (Zimmer & Park, 1967; Zimmer & Anderson, 1968; Zimmer, Wightman & McArthur, 1970). This pioneering research by Zimmer et al has produced data by which previously unmanageable hypothetical constructs can be reduced to operationally definable linguistic criteria. Moreover, extensions of this factor analytic technique has produced evidence to dispell myths such as the contentions of Fiedler (1951) and Cartwright (1966) that what occurs in counseling is affected by the expertise of the counselor and characteristics of the client, not by the counselor's theoretical orientation or counseling style. Recently Zimmer and Pepyne (1970) provided evidence that significant differences existed in the manifest behavior of three expert counselors while each was counseling the same client. Also, these observed differences were directly related to the respective theoretical orientations of the counselors. In a related study Hakstien, Zimmer & Newby (1970) found that the same client responded and reacted differently on seven out of seven variables as a result of counseling with three expert therapists.

Counselor Education and Counseling Research

Through a continuing process of programmatic research (Zimmer, Pepyne, Hackney & Crowley, 1969) it has become possible to identify and analyze at least five counseling styles. Within each style a variety of strategies have been identified. To date 31 discrete classes of counselor responses which implement these styles and strategies have been identified (Pepyne, Zimmer & Hackney, in progress; Pepyne, Zimmer & Hackney, 1969). This behaviorally oriented program has provided a means for

AN EMPIRICAL SYSTEMS APPROACH IN CURRICULUM DEVELOPMENT IN COUNSELOR EDUCATION

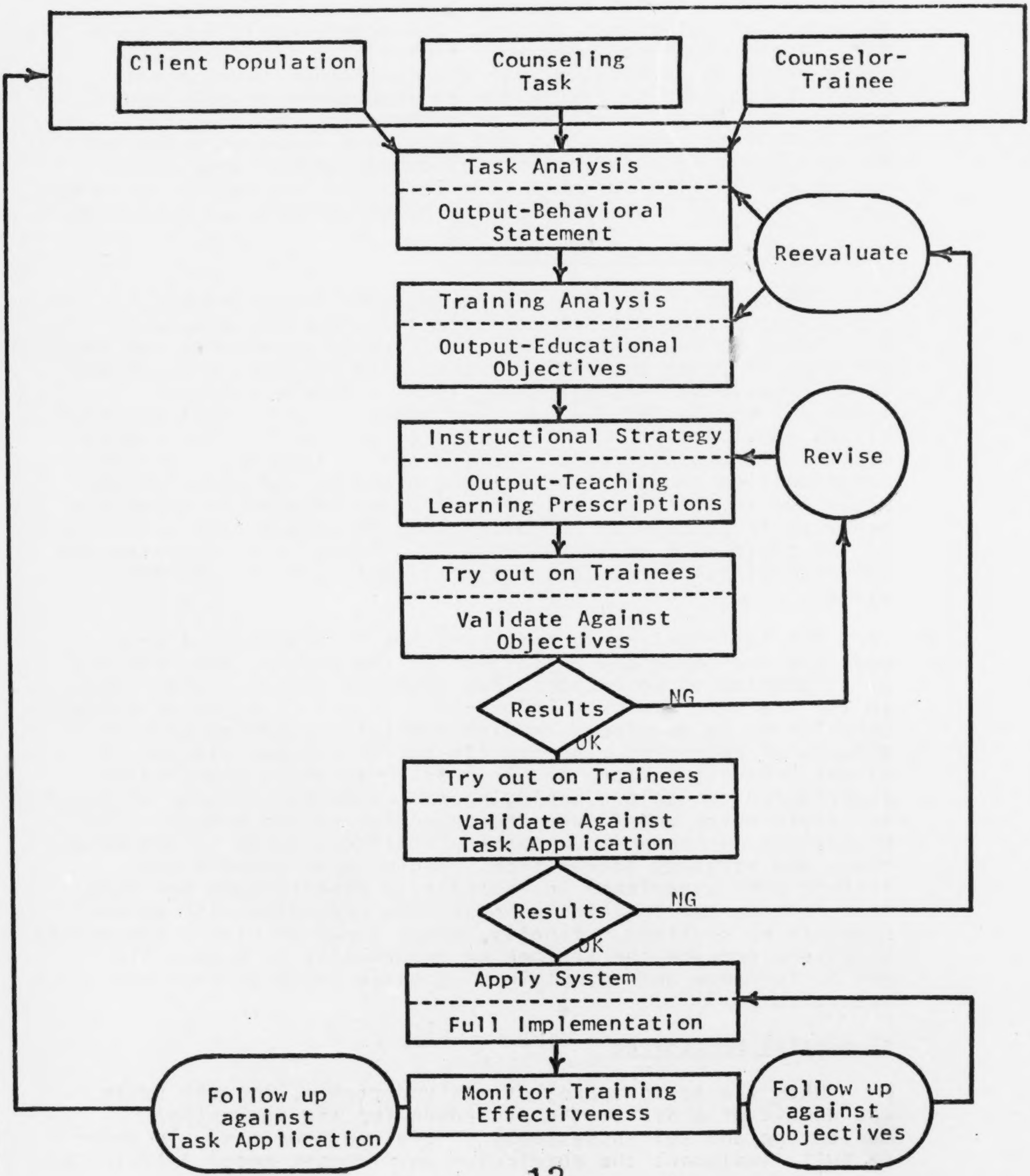
Client Population
Counseling Task
Counselor-Trainee
Task Analysis
Output-Behavioral Statement
Reevaluate
Training Analysis
Output-Educational Objectives
Instructional Strategy
Output-Teaching Learning Prescriptions
Revise
Try out on Trainees
Validate Against Objectives
Results
NG
OK
Try out on Trainees
Validate Against Task Application
Results
NG
OK
Apply System
Full Implementation
Follow up against Task Application
Monitor Training Effectiveness
Follow up against Objectives

Figure 3

objectively analyzing the counseling task and has laid the foundation and implemented the development of a systems approach to counselor education known as the Counselor Repertoire Developments System. The programmatic development of the CRD System has been progressing for the past three years in accordance with the curriculum development model illustrated in Figure 3. An inspection of this model reveals the dynamic interaction among research, training and evaluation components. Not only does research contribute to curriculum development but follow-up against task application continually suggests priorities for counseling research in the areas of task, trainee and client population variables.

Scope and Sequence of Training

The scope of the CRD System includes five discrete counseling styles plus an eclectic task specific approach. Each style is sub-divided into therapeutic strategies and each strategy is based upon related counselor response classes and discriminations. A style constitutes a module (unit of learning) in the CRD System. The basic instructional strategy places considerable responsibility on the learner for implementing his own progress. The trainee is then provided with opportunities to gain a conceptual overview and model of the style and to participate in experiences designed to shape his behavior in successive approximations to an accurate operation of the style with volunteer clients. Figure 4 illustrates the interrelationships of instructional components in the CRD System.

The basic reference text presents in traditional prose mode the rationale and objectives of the module, descriptions of strategies to be employed and response classes to be added to the trainees evolving repertoire, discriminations of client behavior to be developed and information concerning probable effects of counselor response classes on related classes of client behavior. Video models provide specific examples of experienced counselors employing the response classes, strategies and style which constitute the objective of the module. The programmed workbook is an autoinstructional guide to response class and strategy acquisition. Audio tapes provide the trainee with experience in learning to discriminate and then formulate an appropriate response when presented with an oral response by a client. Finally, video taped 10 minute counseling exercises provide the trainee an opportunity to assess his own performance and to obtain diagnostic feedback from his supervisor.

Seuqential Monitoring

When the present project was undertaken, the CRD System was devoid of a systematic procedure for the sequential monitoring and self-assessment of trainee progress. In order to fully implement the curriculum development model illustrated

COUNSELOR REPERTOIRE DEVELOPMENT

SYSTEMS COMPONENTS

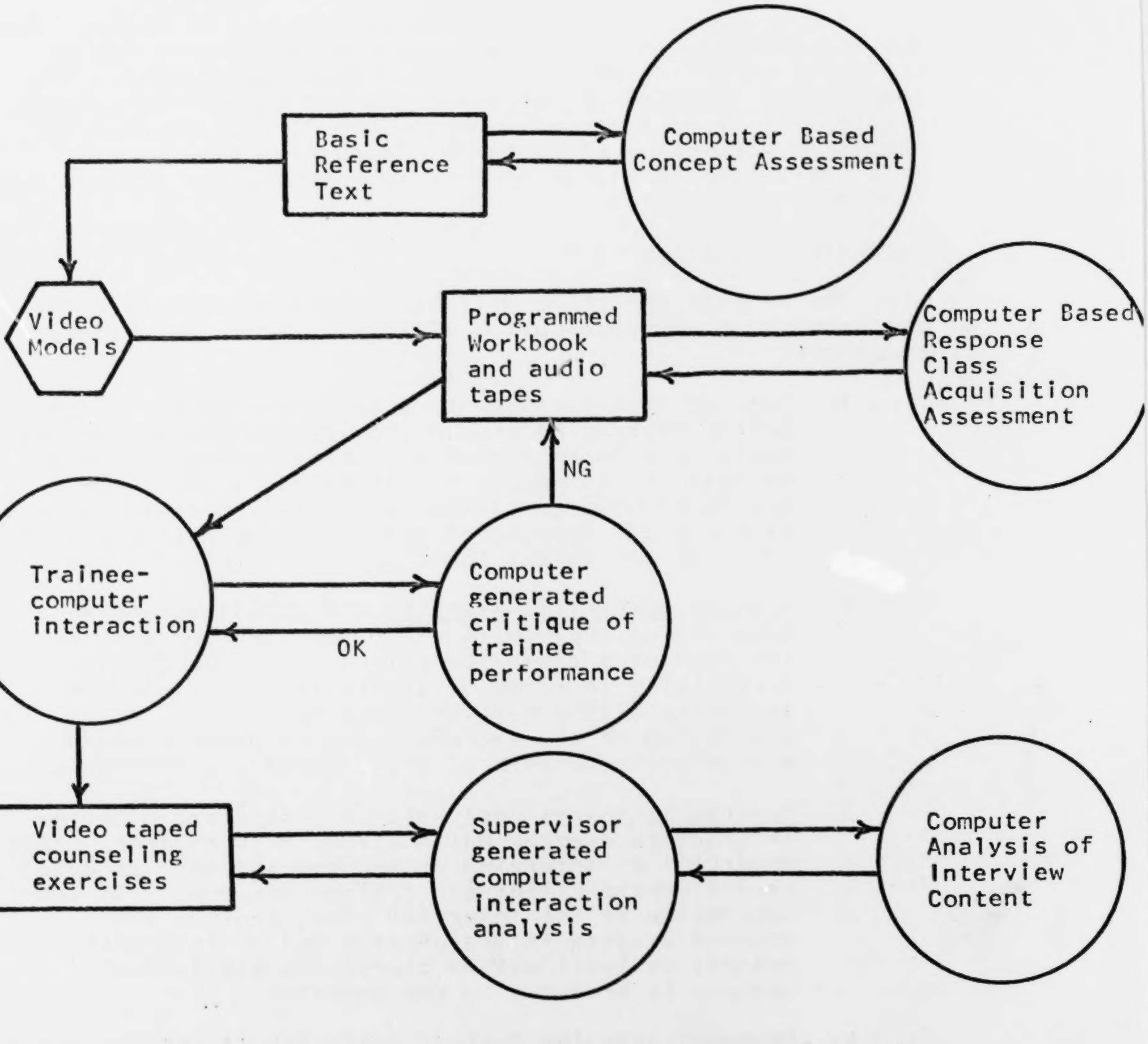
Basic Reference Text
Computer Based Concept Assessment
Video Models
Programmed Workbook and audio tapes
Computer Based Response Class Acquisition Assessment
NG
Trainee-computer interaction
Computer generated critique of trainee performance
OK
Video taped counseling exercises
Supervisor generated computer interaction analysis
Computer Analysis of Interview Content

Figure 4. Arrows indicate the activity flow among CRD components within each learning unit.

in Figure 3. An integrated sub-system for sequential monitoring and continuous self-assessment operating over the full range of a CRD module was needed. It was to fulfill this need that this project was undertaken.

Objectives

General Objective

The general objective of this project was to design, develop and evaluate an interactive computer system for use in counselor education and assessment. More specifically, the project was designed to implement the CRD System through the development of an integrated sub-system for the Sequential Automated Monitoring of Counselor Repertoire Development. This sub-system has since come to be known by the acronym SAMOCORD.

Specific Objectives

The general objective of this project was achieved through the development and evaluation of four separate but related components:

1. Program Self-Assessment: A trainee-computer interactive testing program which administers and scores tests on a large number of topical areas. From a variety of item pools (25 items each) the computer was programmed to select by stratified random sampling a great variety of confidence weighted, 5 item tests of equivalent form.

2. Program Counseling Exercise: A simulated social interaction program in which the computer assumes the role of a disturbed client and responds differentially in terms of the trainees accuracy in operating within a given counseling style. Upon completion of the exercise, the computer prepares a diagnosis analysis of the trainee's performance.

3. Program Interview Analysis: A supervisor-computer interactive program which allows a supervisor, while observing an interview or segment thereof, to code each discrete client and trainee response. At the conclusion of the interview these codings are entered as data in the program and an interactive process analysis with a diagnostic statistical summary is produced by the computer.

4. Program Interview Content Analysis: A program which accepts an uncoded typescript of a counseling interview as data and produces separate summaries, concordances and linguistic analyses of counselor and client verbal behavior in the interview.

These components were developed and evaluated within the context set forth in this chapter. The remainder of this report describes the developmental procedures, evaluative activities and the implications of these innovations for curriculum development and research in counseling.

CHAPTER II

DEVELOPMENTAL PROCEDURES AND PRODUCTS

INTRODUCTION

Within the general framework of the Counselor Repertoire Development System described in Chapter I, this project has produced materials that permit the sequential automated monitoring of trainees developing counseling repertoires. The interactive real time computer programs produced, assess trainee performance within the context of simulated experiences which successively approximate the reality of the counseling task. The Sequential Automated Monitoring of Counselor Repertoire Development (SAMOCORD) System was designed for use in the graduate level preservice and inservice education of counselors.

Potential Advantages of Automated Simulation

The potential advantages of automated simulation materials are many:

1. Simulation focuses on the development of performance skills rather than merely dealing with cognitive "knowing about".
2. It provides sufficient realism to develop interest and involvement on the part of the learner. Increased commitment to the counseling task is related to the reliability and validity of the performance.
3. Simulation provides active participation in the counseling process under conditions that are relatively non-threatening to the learner and where the consequences of the learner's performance are not damaging to clients.
4. It gives the learner immediate diagnostic feedback regarding the adequacy of his performance and guides future learning by suggesting linear progress or branching as needed. Continuous individualized progress and assessment is implemented and continuous comprehensive data is available for curriculum modification and development.
5. Simulation permits successive approximation of reality in order to control task complexity in relation to the developmental level of the learner.

The simulated activities provided in the SAMOCORD System make it possible for counselor educators and supervisors to provide precise training and assessment experiences previously unavailable for either training or assessment purposes.

Developmental Criteria

In the development of the SAMOCORD Program components the following criteria were sought:

1. Trainees, naive in computer technology, must be capable after minimal instruction to call and operate independently any SAMOCORD Program.

2. Programs must be written in programming language(s) which permit easy implementation on a variety of machines and systems at minimal cost to users.

3. Programs must have potential for easy expansion to permit and encourage continued curriculum development and application.

4. Programs must provide 'fail-safe' operation. That is, given a trainee operational error the program must provide corrective action or provide a diagnostic cue and terminate execution but must not deliver erroneous feedback.

5. In addition to monitoring trainee development, each program must provide self-assessment feedback to the trainee and contribute to the sequential performance objectives of the learning module.

Experimental Learning Module

SAMOCORD was designed as an integrated sub-system for the Counselor Repertoire System of counselor education. However, at the time of SAMOCORD development the CRD System itself was in a stage of development and evaluation. Therefore, a prototypical experimental learning module was prepared to implement SAMOCORD development and evaluation. The learning module entitled An Analytical Problem Solving Style of Counseling is a modification of one developed by Madaus (1970) and used in this project with his permission. Table 1 presents a summary of the objectives and instructional components of the experimental learning module and indicates the interrelationships of SAMOCORD components. Complete descriptions of the objectives, instructional modes, learning activities and instructional materials of the experimental learning module are included in Appendix A.

Requirements for Samocord Implementation

The SAMOCORD System as described in this report is operational on the time-sharing service of Dialog Computing, Inc. of Fairfield, Connecticut. Dialog maintains time-sharing service throughout New England, the Middle Atlantic States and the Mid-west; therefore, demonstrations of SAMOCORD

TABLE 1

RELATIONSHIPS AMONG GENERAL LEARNING OBJECTIVES, INSTRUCTIONAL MODES AND MATERIALS AND SAMOCORD SYSTEM COMPONENTS

Sequences of General Learning Objectives	Instructional Mode and Materials	SAMOCORD Component
1. Knowledge of basic concepts for analyzing human behavior	Programmed Text: *Analysis of Behavior* (Holland & Skinner, 1961)	Program Self-Assessment
2. Knowledge of principles and strategies of Analytic Problem Solving Style of Counseling	Programmed Text: *Analytical Problem Solving Style of Counseling* (Madaus, 1970)	Program Self-Assessment
3. Ability to apply a specific repertoire of counselor responses contingent on discriminations of client behavior	Audio & Video Tape: Response class exercises	Program Counseling Exercises
4. Ability to apply an Analytical Problem Solving repertoire of counselor responses to achieve a pre-specified style of client responding	Video-taped 10 minute Counseling exercises	Program Interview Analysis Program Content Analysis

operation is immediately available in these areas through the non-obligatory cooperation of Dialog representatives. Special arrangements for demonstrations in other areas can be arranged. However, the SAMOCORD System is not machine or system bound and can be easily implemented on other commercial or university time-sharing systems. The following hardware and software requirements are necessary for such implementation.

1. Hardware requirements:
    a) IBM 360/65 computer
    b) 16K core availability (32K for Program Interview Content Analysis)
    c) Disk drive facilities allowing attachment of up to 4 files simultaneously in addition to PI and PO.
    d) Support of either ASCII or EBCDIC coded remote terminals.
    e) Facility for storage of up to 50K for programs and related data sets.
2. Software:
    a) Fortran IV compiler; G-level or higher.
    b) Basic Assembler Language compiler for Program Interview Content Analysis.

In accordance with the context, rationale, criteria and requirements herein described, the basic objectives of this project were accomplished in four separate but related steps:

1. The development of a trainee-computer interactive real-time testing program called Program Self-Assessment.

2. The development of a trainee computer interactive real time counseling simulation program called Program Counseling Exercises.

3. The development of a supervisor-computer interactive process analysis program called Program Interview Analysis.

4. The development of a computer program for use on remote terminals to provide a linguistic analysis of interview content called Program Interview Content Analysis.

This chapter describes the procedures employed to accomplish these steps and the products resulting from developmental activities.

Program Self-Assessment

General Description

From a potentially large number of item pools, this interactive computer program constructs, administers and scores a great variety of confidence weighted 5 item multiple choice tests of equivalent form. Figure 5 presents a schematic diagram of information flow in the operation of Program Self-Assessment. The program operates according to the following sequence of steps:

1. From a remote terminal the trainee "logs" into the computer and loads Program Self-Assessment.

2. Computer requests trainee to select from the tests currently available (any number of tests may be made available) the test he wishes to take.

3. The program attaches the item pool selected by the trainee and by a process of stratified random sampling the program selects, from the pool of 25 verified items, five items to be administered.

4. Trainee is required to identify himself by typing his full name.

5. The program provides directions to the trainee indicating that after reading an item he must type the number of the best response; then, when directed, he must indicate whether he is very confident, fairly confident or not confident that he has selected the best response by typing "3", "2", or "1" respectively.

6. Items are administered to the trainee one at a time, and trainee is asked to type in the number of the best response. Following his selection the trainee is asked to indicate how confident he is that he has selected the best response.

7. If the trainee has selcted the best response the computer reinforces him by typing a comment such as "GOOD", "CORRECT", "YOU'RE OFF TO A GOOD START", etc.

8. If the trainee has not selected the best response the computer informs him and requests that he "TRY AGAIN". He is requested to indicate his level of confidence after each trial. If he has selected the best response he is reinforced, if not he is given another trial.

SCHEMATIC DIAGRAM OF TEST CONSTRUCTION AND SCORING PROGRAM

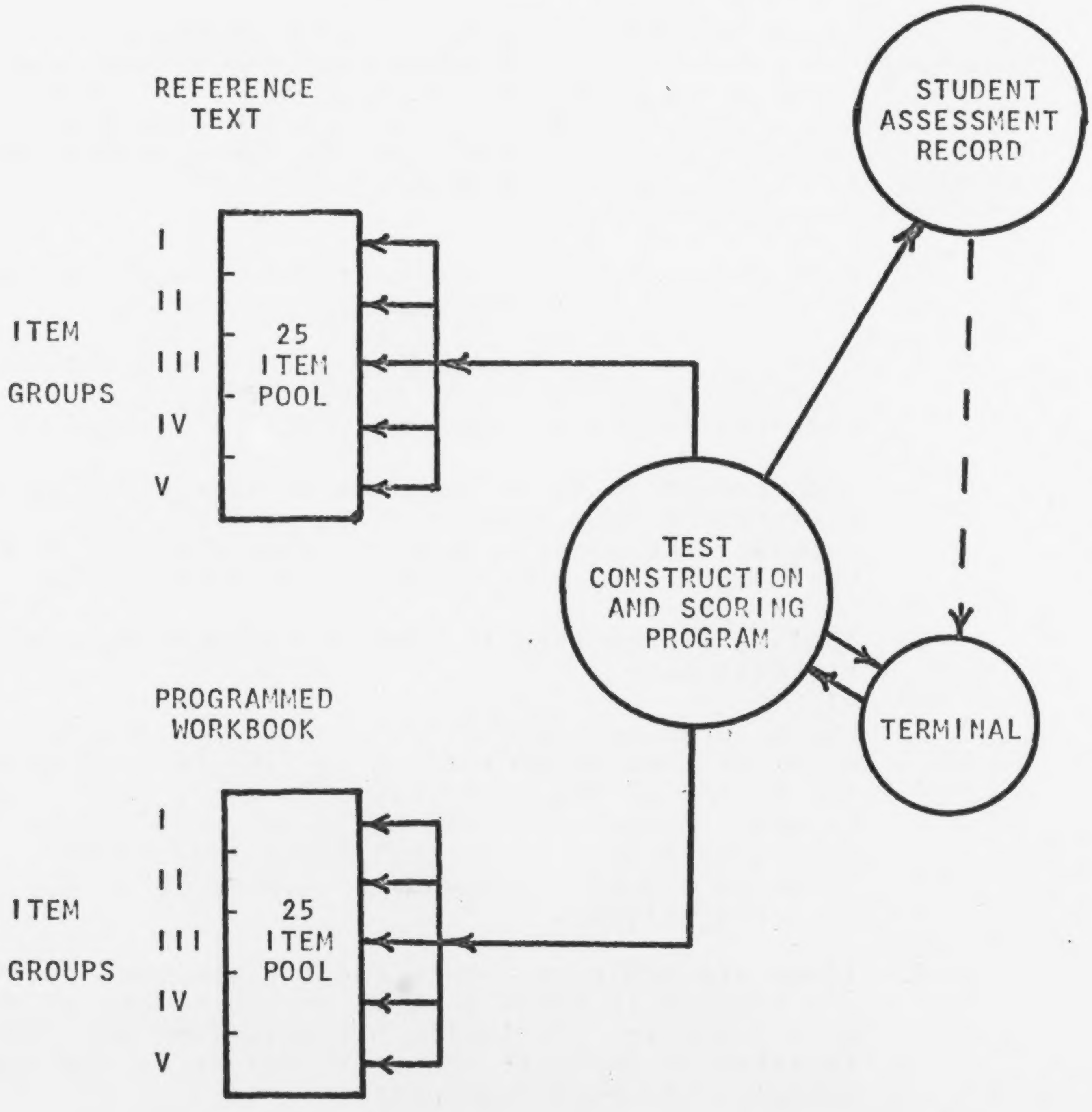

FIGURE 5. Trainee selects test to be taken. Program samples appropriate item pool and presents items one at a time. Trainee responds to item. If response is correct trainee is reinforced, if not he is directed to try again. Computer presents next item etc. When test is concluded the program scores the test, files the results in the student assessment record and delivers a diagnostic message to the trainee. The instructor may retrieve the student assessment record whenever desired. Only two item pools are illustrated but any number may be made available.

9. If after four trials on any item the trainee has failed to select the best response the computer informs him of the answer and then administers the next item.

10. After five items have been administered the computer types out a statement of the trainees score and provides a diagnostic message relating the trainees achievement to his expressed level of confidence.

11. The computer then adds the trainee's name, score, average confidence level, number of trials and a complete synopsis of his performance on each item to the student assessment record. This updated record is catalogued and filed for future access.

12. If the trainee attains a perfect score, the computer delivers a personal memo to him from the instructor.

13. Finally, the computer inquires whether or not the trainee wishes to take another test. If the trainee answers "Yes", the program recycles to step 2, otherwise, the program stops.

14. Upon completion of the testing procedures, the trainee "logs off" the computer. The total procedure takes about 10 minutes.

Complete printouts of the program and related data sets are listed in Appendix B.

Constructing Item Pools

The following procedures were employed in the construction of item pools used in this project. These procedures may be used to guide the construction of other item pools for use with Program Self Assessment. From the contents of the programmed text Analysis of Behavior (Holland & Skinner, 1961) a pool of 97 multiple choice items was constructed. This pool of items was inspected by two counselor educators and was modified according to suggestions concerning grammar, syntax, and adequacy of distractors. The revised pool was administered via mimeographed test booklets and machine scoreable answer sheets to 107 students in the graduate counselor education program at the University of Hartford. Results of this testing were scored and item analyzed by a computer program, TESTEVAL (Pepyne, Wightman & Clinch, 1968). Items found to have yielded a difficulty level of between 30 and 70 percent, inclusive, were retained in the pool. From this revised pool, any item yielding a discrimination index of less than 10 was eliminated. A pool of 53 verified multiple choice items remained. From these 53 items two counselor educators assisted the author in selecting 25 items which represented in corresponding proportions the content to be tested.

A similar procedure was used to construct an item pool to test material related to An Analytical Problem Solving Style of Counseling (Madaus, 1970).

Organizing Item Pools

Several alternative ways of organizing items within item pools were explored. Some of these included grouping by difficulty level, grouping by content, random order assignment, etc. In order to insure that each test constructed by the computer contained relatively equivalent proportions of items in each content area included in the item pool, a content grouping system was finally selected.

Each item pool was organized into five groups of five items each. All items in each group cover the same general content. An attempt was made to select items such that the average difficulty for each group was equal. When constructing a test, the computer randomly samples one item from each group for inclusion in the test. The program is so designed, however, that no item will appear on each of two consecutive tests. With this exception, however, it can be expected that at least one common item will appear on any two randomly selected tests constructed by the computer. The chances of two identical tests being constructed from a basic 25 item pool are less than one in a thousand.

The program permits attachments of any number of item pools limited only by available storage of the computer system used. Item pools are identified and attached by a three character attribute associated with the data set name "INPUTXX:_ _ _". Thus, dataset INPUTXX:CT1 is the name associated with the test coded as "CT1". The first character in the attribute code must be alphameric. The other two characters may be letters and/or numbers.

Test Length

Initially, the plan was to design a program to construst, administer and score 25 item tests. After experimentation, however, it was found that 25 item tests were too long for present purposes for at least two practical reasons:

1. Testing time for a 25 item, five alternative, multiple choice test extended from 26 to 47 minutes. This time duration tended to be tiring for students and increased the probability that a machine or telephone line problem could abort the testing procedure. Moreover, it could prove quite costly in regular operation.

2. A sufficiently large item pool (at least 100 items per test) occupied a prohibitively large storage space for current purposes.

It became evident that if the program was to provide both effective and efficient monitoring and self-assessment functions over a wide variety of content areas alternate testing procedures had to be investigated.

Confidence Weighting

Confidence weighting refers to any of a variety of procedures for having the examinee indicate his confidence in the correctness of response alternatives to an item. Advocates of confidence weighting (DeFinnetti, 1965; Messengill & Shuford, 1967; Shuford, 1967; Shuford & Messengill, 1967) have identified several potential advantages of the procedure:

1. More information is extracted concerning the examinees knowledge; and, hence, scores may be expected to manifest greater validity.

2. Guessing is discouraged and as a consequence reliability is increased.

3. If the weighting system is appropriately designed it allows the examinee to maximize his score in the long run only if he correctly (honestly) reports his confidence judgment.

The confidence weighting system incorporated into Program Self-Assessment was arrived at after experimentation with several alternative models discussed in the literature (Ahlgren, 1969; Hopkins, Hakstien & Hopkins, 1970; Hableton, Roberts & Traub, 1970). The procedure developed for purposes of this project operates as follows:

1. The examinee is asked to indicate his selection of the best of five alternative responses to an item.

2. He is then required to record his level of confidence (Very Confident, Fairly Confident or Not Confident) that he has selected the best response.

3. If the alternative selected was not the best, three, two or one point(s) are subtracted from the examinee's score depending on his level of confidence. He is required then to select another alternative and indicate his level of confidence in his new response.

4. The examinee is allowed up to four trials per item. If he is correct on any trial an increment, weighted according to trial and level of confidence, is added to his score. The matrix of weighted increments is presented in Table 2.

TABLE 2

INCREMENTS ADDED TO TEST SCORE AS A FUNCTION OF TRIALS AND LEVEL OF CONFIDENCE

LEVEL OF CONFIDENCE	TRIAL			
	1	2	3	4
1	10	9	8	7
2	9	8	7	6
3	8	7	6	5

In this system, the score achieved on each item is the algebraic sum of the weighted increment and deductions for incorrect responses. This weighting system, although not emanating from the pristine purity of a mathematical model has the desirable property of maximizing scores in accordance with accuracy of confidence judgment and has proven to be extremely impressive in terms of its pragmatic effects on the reliability and validity of randomly selected five item tests. Results of evaluations are reported in Chapter III.

Program Counseling Exercise

General Description

This interactive computer program provides practice exercises for any given counseling style. The trainee is instructed that he will have a short counseling session with a client and that he will communicate with his client using the computer terminal. Next, the trainee is provided with background data on the client and given the objective for the interview. A typical objective is "to help the client to rationally identify and explore the alternatives he might pursue to cope more adequately with his present problem." The client makes the first response. The program operates so that the client will terminate the interview in a positive, negative or neutral fashion depending upon the accuracy with which the trainee conforms to the required counseling style. Figure 6 presents a flow chart of computer-trainee interaction. After the interview has been terminated the computer types out a diagnostic matrix with which the trainee can assess the accuracy of his performance.

Operational Sequence

The program operates according to the following sequence of steps:

1. From a remote terminal the trainee "logs" into the computer and loads Program Counseling Exercise.

2. Computer requests trainee to select from exercises currently available (any number of exercises may be made available) the exercise he wishes to take.

3. The program attaches three files of client responses in accordance with the exercise selected by the trainee. File 1 contains client responses which move progressively toward the required objective of the exercise. File 2 contains ambiguous client responses. File 3 contains client responses characterized by resistance and hostility.

4. The computer types out directions, background information on the client and a statement of the enabling objective of the interview. The first client response is then typed out.

5. The client response contains discriminative stimuli which cue the trainee regarding the required response. The trainee reads the client response and then types in a response of his own.

6. The computer checks the trainee's response for key words and syntax characteristic of the required response class. If required response was not given the computer checks for a neutral response (i.e. Minimal social stimuli or restatements). Questions or other responses are then checked. If the required response is identified the computer continues reading and writing file 1 responses. If a neutral response is identified the computer will read and

FLOW CHART
OF
INTERACTIVE INTERVIEW MODEL

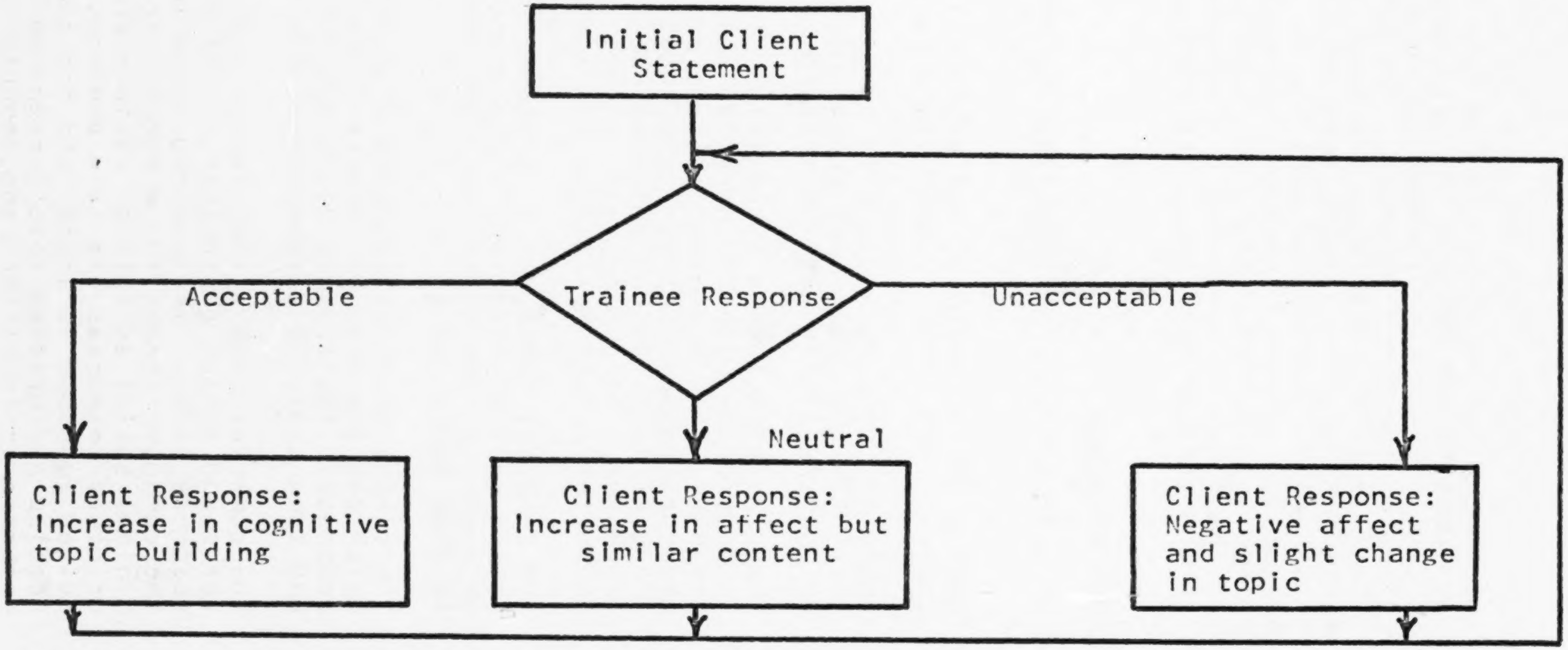
Initial Client Statement
Trainee Response
Acceptable
Unacceptable
Neutral
Client Response: Increase in cognitive topic building
Client Response: Increase in affect but similar content
Client Response: Negative affect and slight change in topic

Figure 6. Each exercise is designed to take the trainee through at least five iterations of the basic cycle. It will be noted that acceptable responses lead progressively toward the objective, neutral responses maintain the status quo, and unacceptable responses cause progressive deterioration in "client" responses. Note also that the model permits counselor self-correction.

write a file 2 response, otherwise the computer reads and writes a file 3 response.

7. The sequence cycles back to step 5. The trainee can always reinstate file 1 client responses by properly discriminating and providing the required response class after any given client response.

8. Four neutral or four inadequate trainee responses terminate the interview. The smallest number of required responses necessary to terminate the interview in a positive fashion are five. However, depending on the trainees percent of accuracy it may take as many as 10 accurate responses to terminate the interview. A typical positive termination is "We've only talked for a short time but I feel better." A neutral termination is "I'm sorry I can't seem to talk now. Maybe I could come back later." An example of a negative termination is "I quit. You just don't understand what I'm trying to tell you."

9. Following the clients termination, the computer types out a diagnostic analysis of the trainees performance. In the diagnostic matrix, row totals indicate the number of times each response was needed. Diagonal cells indicate the number of times a response class was emitted when required. Proportion of accuracy for each response class is obtained by comparing the appropriate diagonal cell with the corresponding row total.

10. Upon receiving the diagnostic analysis the trainee "logs off" the computer. The total exercise takes about 10 minutes.

Complete printouts of the program and related datasets are listed in Appendix C. An inspection of the program reveals that Subroutine Anal may be expanded easily in order to implement exercises for other counseling styles.

Program Interview Analysis

General Description

This program permits a supervisor to prepare a statistical analysis of the interaction between counselor and client in a video-taped counseling exercise. While viewing a video-taped exercise of a trainee executing a given counseling style, the supervisor listens to each client statement and codes the class of counselor response required by the style. He then codes the class number of the response the trainee emits. These pairs of numbers, code of response required/ code of response emitted by trainee, constitute the input data for the program. Given this coded input the program prepares and prints a Diagnostic Analysis matrix indicating the accuracy of the trainee's interaction with his client. The matrix produced is similar to that produced by Program Counseling Exercise.

Selection of an Interaction Process Analysis System

A review of the literature revealed six interaction process analysis systems that have been designed for use in a counseling setting (Simon & Agazarian, 1967; Bales, 1950; Hill, 1965a, 1965b; Longabaugh & Eldred, 1964; Moustakas, Sigel & Schalock, 1956; Snyder & Snyder, 1961). Each of these systems, however, was found to deal in rather global more or less loosely defined categories which were not acceptable in terms of the purposes of this project. The decision was made therefore to devise a system which would more precisely evaluate the performance objectives of any given counseling style.

In a well defined counseling style certain syntactic characteristics of a client response provide the cue for the counselor response class required to follow it. For example, in the Analytical Problem Solving Style where a present time perspective is called for, if the client says, "I used to worry a lot", the counselor is required to refocus the client statement into a present time perspective. Therefore, a refocusing response such as, "You still worry a lot," would meet the requirement of the style. For purposes of this project an 8 by 8 matrix was conceptualized. Rows represent the response required and columns represent the response class emitted by the trainee. This system is designed to provide an objective basis for categorization and to relate trainee performance directly to the objectives of the learning module.

Variation in Analyses

Originally the interaction analysis system was designed to summarize supervisor assessments of the accuracy of each trainee response. Another type of analysis is possible with this system. By arranging a series of small buttons on the arms of the trainees chair and a series of small lights on the back of the client's chair, the trainee is enabled to signal the class number of the response he is planning to emit. By comparing the response class signalled and the response class emitted it is possible to determine whether the trainee is emitting the response classes he intends. A comparison of the supervisor generated matrix with the trainee tag matrix permits a differential diagnosis of trainee errors. The supervisor generated matrix compares responses required with responses emitted. The trainee tag matrix compares responses intended with responses emitted. Low percent accuracy in the supervisor matrix and high percent accuracy in the trainee tag matrix, for example, indicates errors in strategy rather than in response class construction.

A complete printout of the Fortran IV program is contained in Appendix D.

Program Interview Content Analysis

General Description

This program provides a linguistic analysis and summary of words, sentences and responses emitted by each participant in a counseling interview. Input for the program is a regular uncoded typescript of a counseling interview. Output from the program includes the following for each participant:

1. An alphabetic listing of words
2. The frequency of each word
3. The probability of each word being emitted by the speaker
4. Total words emitted by the speaker
5. The number of different words emitted by the speaker
6. The type-token ratio
7. The number of sentences emitted by the speaker
8. The average number of words per sentence
9. The number of responses emitted by the speaker
10. The average number of sentences per response
11. The average number of words per response
12. The percent of words, sentences and responses contributed by the speaker to the total interview

Rules for Typescript Preparation

Although typescripts need not be coded for analysis a few simple rules are necessary in preparing typescripts:

1. Sentences must end with a period, question mark or exclamation point and must be followed by two blank spaces.

2. The name of the speaker followed by a colon must preceed each response. (ie. Pepyne: Hm-hmm. Client: I got all "A's" last term.)

3. The referents of pronouns may be enclosed in parentheses immediately following the pronoun (ie. him(father) not him (father)).

4. The last line of text must be "end/" or "END/". Upper and lower case may be used in the usual manner throughout the text.

Rationale for Developing the Program

The analysis of natural language has important implications for the experimental analysis of verbal behavior in counseling (Kennedy & Zimmer, 1968; Pepyne & Zimmer, 1970; Crowley 1970). Automated analyses offers several advantages over the use of human coders.

Speed and efficiency - the computer can code, quantify and analyze verbal data in minutes. Human coders require days, even weeks to accomplish equivalent tasks.

Reliability - although human coders can be trained to execute the drudgery of coding and counting with a high degree of reliability, the computer executes the repetitious application of programmed rules with unerring consistency.

Scope of study - when verbal data are stored in a computer they can be reanalyzed as often and for as many different purposes as the investigator desires. Hand coding procedures typically restrict the scope of study to the original design.

Validity - computer techniques are currently being designed to apply factor analytic procedures to verbal content analysis. Such procedures promise a type of empirical validation uncommon in traditional content analysis studies.

Preparation of data - Students and secretaries can be trained easily to prepare typescripts from audio or video tape recordings of interviews. Typescripts can be prepared off-line on a typewriter terminal which makes a printed copy and simultaneously prepares a tape for subsequent input to the computer. The only pre-coding found to be necessary is that all pronoun antecedents and unusual synonyms of key words are added in parentheses. This provides a more precise analysis of critical responses.

A complete printout of the Basic Assembler Language version of Program Interview Content Analysis is contained in Appendix E.

CHAPTER III

PRODUCTS AND EVALUATION

An interactive computer system for use in counselor education and assessment was developed in this project. The system, called SAMOCORD, Sequential Automated Monitoring of Counselor Repertoire Development, consists of four basic components:

1. Program Self-Assessment
2. Program Counseling Exercise
3. Program Interview Analysis
4. Program Interview Content Analysis

This chapter contains actual unedited printouts to demonstrate the operation of each of the SAMOCORD components and describes the methods and results of evaluation activities. In the printouts of program operation, lines preceded by a caret (>) indicate trainee input. Other lines are records of computer output responses. These demonstration records were not retyped. They are presented in this chapter just as they were produced on the computer terminal; in fact, this total report was typed on a Novar 50-5 computer terminal.

Program Self-Assessment

Program Operation

Two item pools were developed for use with Program Self-Assessment. One item pool sampled the content of the programmed text, Analysis of Behavior (Holland and Skinner, 1961) and the other sampled the content of the programmed workbook, An Analytical Problem Solving Style of Counseling (Madaus, 1970). The demonstration which follows reveals the results of program interaction with a trainee whose understanding of the material was low but whose confidence was high.

The trainee's name has been changed but otherwise the printout is authentic. Note that the trainee selected test code "CT4" which contains the Analysis of Behavior item pool. The complete printout of the trainee-computer interaction follows on the next three pages.

```
>//load d test:obj


                              **************************************

                              * PROGRAM SELF-ASSESSMENT            *
                              * DEVELOPED BY DR. EDWARD W. PEPYNE  *
                              *            UNIVERSITY OF HARTFORD *
                              * SUPPORTED BY USOE PROJECT #0-A-004 *

                              **************************************


THIS PROGRAM ADMINISTERS AND SCORES THE FOLLOWING TESTS:
        CT1 : ANALYTICAL PROBLEM SOLVING
        CT2 : PSYCHOLOGY OF INTERPERSONAL BEHAVIOR
        CT3 : CHILDHOOD & SOCIETY
        CT4 : SCIENCE & HUMAN BEHAVIOR
        CT5 : EDG 564 FINAL EXAM
 TYPE THE CODE OF THE TEST YOU WISH TO TAKE ->CT4



 TYPE YOUR LAST NAME.>MORRIS

 TYPE YOUR FIRST NAME.>CHARLES


 SCIENCE AND HUMAN BEHAVIOR


 SELECT THE BEST RESPONSE FOR EACH ITEM. WHEN I TYPE
 "YOUR RESPONSE>" TYPE IN THE NUMBER OF THE RESPONSE
 WHICH YOU HAVE SELECTED. YOU ALSO WILL BE ASKED HOW
 CONFIDENT YOU ARE THAT YOU HAVE SELECTED THE "BEST"
 RESPONSE.  INDICATE YOUR LEVEL OF CONFIDENCE IN THE
 FOLLOWING MANNER:
        IF YOU ARE VERY CONFIDENT, TYPE...."3"
        IF YOU ARE FAIRLY CONFIDENT, TYPE.."2"
        IF YOU ARE NOT CONFIDENT, TYPE....."1"


 When a child is reinforced for appropriate social behavior, the
 reinforcing stimulus occurs immediately ***** the appropriate
 response, and the ***** at which this class of responses is *****
 increases.
   1.  before; intensity; emitted
   2.  before; rate; elicited
```

```
  3.  after; rate; elicited
  4.  before; frequency; reinforced
  5.  after; rate; emitted

 YOUR RESPONSE>5
 HOW CONFIDENT ARE YOU?>3
CORRECT



Availability of reinforcement depends on the passage of time in
***** schedules and on the number of responses in ***** schedules.
  1.  continuous; intermittent
  2.  interval; ratio
  3.  ratio; interval
  4.  intermittent; continuous
  5.  simple; complex

 YOUR RESPONSE>1
 HOW CONFIDENT ARE YOU?>3
SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.

 TRY AGAIN>4
 HOW CONFIDENT ARE YOU?>3
SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.

 TRY AGAIN>5
 HOW CONFID NT ARE YOU?>3
SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.

 TRY AGAIN>3
 HOW CONFIDENT ARE YOU?>3
THE BEST RESPONSE TO THAT ITEM WAS 2.



In operant discrimination we speak of a three term contingency.
Events are arranged in this order: present the *****, wait for the
***** and *****.
  1.  response; stimulus; reinforce
  2.  reinforcer; response; stimulate
  3.  reinforcer; stimulus; respond
  4.  stimulus; response; discriminate
  5.  stimulus; response; reinforce

 YOUR RESPONSE>4
 HOW CONFIDENT ARE YOU?>3
SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.

 TRY AGAIN>5
 HOW CONFIDENT ARE YOU?>3
GREAT
```

```
Punishment does not ***** a response.  Rate of responding tempor-
arily *****, in part, because punishment and the resulting con-
ditioned aversive stimuli generate *****.
  1.  condition; increases; fear
  2.  extinguish; increases; anxiety
  3.  condition; decreases; anxiety
  4.  extinguish; decreases; anxiety
  5.  extinguish; increases; rewards

 YOUR RESPONSE>3
 HOW CONFIDENT ARE YOU?>3
SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.

 TRY AGAIN>4
 HOW CONFIDENT ARE YOU?>3
YOU'RE GOING GREAT



In a functional relationship there is an observed systematic
relationship between *****.
  1.  an independent variable and a dependent variable
  2.  two independent variables
  3.  two dependent variables
  4.  any two variables
  5.  a variable and a constant

 YOUR RESPONSE>1
 HOW CONFIDENT ARE YOU?>3
NICE GOING



CHARLES  YOU HAVE SCORED 20. THE HIGHEST POSSIBLE SCORE  WAS 50.
IN GENERAL, YOUR CONFIDENCE WAS HIGH BUT THE   UNDERSTANDING YOU
EXHIBITED WAS LOW .
IT APPEARS THAT YOU ARE SOMEWHAT OVERCONFIDENT OF YOUR KNOWLEDGE
IN THIS AREA.

DO YOU WISH TO TAKE ANOTHER TEST?
IF YES, TYPE 1;      IF NO, TYPE 2.
>
```

A comparison of the printout of the program operations with design specifications in Chapter II reveals that the program operates in exact accordance with the intended procedures. In addition to the feedback presented to the trainee, a completed record of his performance was cataloged and stored by the computer. Printouts of Student Assessment Records are listed in Appendix B.

The following operation printout illustrates the interaction of a trainee who possessed a high level of understanding and confidence of material related to An Analytical Problem Solving Style of Counseling.

It can be noted that in this second demonstration the trainee's perfect performance resulted in the delivery of a supportive reinforcing memo. Again the trainee's name has been changed but otherwise the printout is an authentic record of the trainee-computer interaction.

In over 150 operations similar to those listed here the program has been observed to perform in accordance with expectations using a variety of item pools.

The next three pages contain the printout record of the second demonstration.

```
>//load d test:obj


                                   **************************************

                                   * PROGRAM SELF-ASSESSMENT            *
                                   * DEVELOPED BY DR. EDWARD W. PEPYNE  *
                                   *             UNIVERSITY OF HARTFORD *
                                   * SUPPORTED BY USOE PROJECT #0-A-004 *

                                   **************************************


THIS PROGRAM ADMINISTERS AND SCORES THE FOLLOWING TESTS:
          CT1 : ANALYTICAL PROBLEM SOLVING
          CT2 : PSYCHOLOGY OF INTERPERSONAL BEHAVIOR
          CT3 : CHILDHOOD & SOCIETY
          CT4 : SCIENCE & HUMAN BEHAVIOR
          CT5 : EDG 564 FINAL EXAM
 TYPE THE CODE OF THE TEST YOU WISH TO TAKE ->CT1



 TYPE YOUR LAST NAME.>WILSON

 TYPE YOUR FIRST NAME.>HENRY


ANALYTICAL PROBLEM SOLVING STYLE OF COUNSELING


SELECT THE BEST RESPONSE FOR EACH ITEM. WHEN I TYPE
"YOUR RESPONSE>" TYPE IN THE NUMBER OF THE RESPONSE
WHICH YOU HAVE SELECTED. YOU ALSO WILL BE ASKED HOW
CONFIDENT YOU ARE THAT YOU HAVE SELECTED THE "BEST"
RESPONSE.  INDICATE YOUR LEVEL OF CONFIDENCE IN THE
FOLLOWING MANNER:
          IF YOU ARE VERY CONFIDENT, TYPE...."3"
          IF YOU ARE FAIRLY CONFIDENT, TYPE.."2"
          IF YOU ARE NOT CONFIDENT, TYPE....."1"


The client says, "I used to wish I could be the smartest kid in
the class."  The most appropriate counselor response would be:
 1.  You could be the smartest kid in the class if you really
       applied yourself.
 2.  Let's talk about the reason you wished you could be the
       smartest kid in the class.
 3.  You probably wanted to be the smartest in the class because
       deep inside you felt inferior.
 4.  You wish you could be the smartest kid in the class now.
 5.  Do you still feel this way?

 YOUR RESPONSE>4
 HOW CONFIDENT ARE YOU?>3
RIGHT ON !!



The client says, "I used to be so upset when a teacher criticized
me, but now its just a big joke."  The most appropriate counselor
response would be:
 1.  You've apparently learned to live with criticism.
 2.  You feel its a big joke because its easier to laugh it
      off than to admit that criticism hurts you inside.
 3.  Let's talk about the reasons teachers criticize you.
 4.  Criticism used to upset you.
 5.  Now you feel its just a big joke.

 YOUR RESPONSE>5
 HOW CONFIDENT ARE YOU?>3
GOOD WORK



The client says, "I'm mad as hell."  The most appropriate
counselor response would be:
 1.  Let's explore the reasons for your anger.
 2.  You feel hostile.
 3.  Tell me more about it.
 4.  You're mad because something has frustrated you.
 5.  You can control your emotions.  You can count to ten, take
      a walk around the block or tell me about it.

 YOUR RESPONSE>1
 HOW CONFIDENT ARE YOU?>3
GREAT



The client says, "I don't have much of a social life;  the
girl I want to date won't even talk with me."  The most
appropriate counselor response would be:
 1.  Because you can't date the girl you want you don't date
      at all.
 2.  You can lick that problem.  Date others and make her
      jealous then she'll date you.
 3.  Let's talk about the reasons this one girl is so important.
 4.  She won't even talk with you.
 5.  You don't have much of a social life.

 YOUR RESPONSE>1
 HOW CONFIDENT ARE YOU?>3
YOU'RE GOING GREAT
```

The client says, "I don't know what to do, I want a career in medicine but I know now I'll never pass a pre-med course." The most appropriate counselor response would be:

1. Let's explore your reasons for wanting a career in medicine.
2. You still want a career in medicine.
3. Because you want a career in medicine but know you'll never pass a pre-med course you don't know what to do.
4. You can solve that problem. Not all careers in medicine demand a pre-med course. You could become a male nurse, a laboratory technician, an x-ray technician, a hospital administrator, there are many possibilities.
5. Medicine isn't the only career, why not explore some others.

```
 YOUR RESPONSE>4
 HOW CONFIDENT ARE YOU?>3
SUPERB


HENRY    YOU HAVE SCORED 50. THE HIGHEST POSSIBLE SCORE  WAS 50.
IN GENERAL, YOUR CONFIDENCE WAS HIGH AND THE   UNDERSTANDING YOU
EXHIBITED WAS HIGH.
```

UNIVERSITY OF HARTFORD
SCHOOL OF EDUCATION
COUNSELOR EDUCATION FACULTY

MEMO

TO: HENRY WILSON
FROM: Dr. E.W. Pepyne

Congratulations, my friend, you are demonstrating exceptiona knowledge in the area of individual counseling theory and techniques. It is a pleasure to work with students like you, who demonstrate suc a high degree of commitment and competence.

If I can assist you further in your career development do no hesitate to call on me.

Sincerely,

EDWARD W. PEPYNE
Associate Professor
Counselor Education

Evaluation

The first concern was to establish whether or not the program did construct tests according to the stratified random selection procedure required by the program specifications. Using the Analysis of Behavior item pool the program was administered two consecutive times to 60 counselor education trainees. Table 3 presents the frequencies with which each item in the pool appeared on the 120 tests constructed by the program. The expected frequency of each item was 24. Observed frequencies are shown as cell totals. A chi-square analysis provided no evidence that item selection was other than the intended stratied random procedure.

TABLE 3

FREQUENCY OF OCCURENCE OF ITEMS ON 120 TESTS CONSTRUCTED BY PROGRAM SELF-ASSESSMENT

GROUP NUMBER	POSITION OF ITEM IN GROUP					
	1	2	3	4	5	TOTALS
I	24	28	20	28	20	120
II	24	22	20	24	30	120
III	20	22	36	24	18	120
IV	20	26	30	18	26	120
V	22	30	28	20	20	120
TOTALS	110	128	134	114	114	600

f_e per cell = 24 df = 24

$x^2 = 19.5$ $p < .50$

Reliability and Validity

Sixty counselor trainees were administered a 50 item test on Analysis of Behavior prior to being administered two consecutive 5 item tests by Program Self-Assessment. The 50 item test consisted of the original bank of items from which the computer item pool of 25 items was selected. Table 4 presents the parameters of these test results.

TABLE 4

MEANS AND STANDARD DEVIATIONS OF TWO CONSECUTIVE TESTS ADMINISTERED BY PROGRAM SELF-ASSESSMENT AND A 50 ITEM CRITERION TEST

SCORE	MEAN	S.D.
Criterion Test	32.26	8.60
First Computer Test	37.11	11.76
Second Computer Test	38.41	8.91
First Computer Confidence	2.39	0.44
Second Computer Confidence	2.27	0.59

N = 60

Table 5 presents the intercorrelations among these scores.

TABLE 5

INTERCORRELATIONS AMONG SCORES OF COMPUTER TESTS, CONFIDENCE INDICES AND CRITERION TEST SCORES

	1	2	3	4	5
1. Criterion Test	1.00	0.84	0.79	0.73	0.72
2. First Computer Test		1.00	0.66	0.61	0.62
3. Second Computer Test			1.00	0.64	0.74
4. First Computer Confidence				1.00	0.81
5. Second Computer Confidence					1.00

N = 60

The correlation analysis indicated that the computer test exhibited a concurrent validity index of 0.84 when compared with a 50 item pencil and paper test of similar items and content. The computer test, however, demonstrated a relatively low level of reliability (r = 0.66). This was not surprising due to the fact that the computer test is instructional as well as evaluative. The relatively low reliability index is interpreted to indicate that trainees profited differentially from the instructional effects of the computer test.

Costs

Operation of Program Self-Assessment takes approximately 10 minutes and 14 CPU's. On the computer system used for development and evaluation, this amounts to a computer usage charge of approximately three dollars and seventeen cents per run.

Program Counseling Exercise

Two exercises were developed for use with Program Counseling Exercise. One is an exercise involving a 19 year old white male client who is having trouble at home. The other is a simulated interview with an 18 year old black female client who is suffering depression following an automobile accident. Both exercises assess the trainees accuracy in using an analytical problem solving style of counseling. In the examples which follow, note that the program not only assesses the accuracy of the trainee's performance but also differentially reinforces appropriate trainee responses. When the trainee emits an accurate response he is reinforced by receiving an affirmative, topic building response from the"client". If the trainee emits a neutral response such as a minimum social stimulus (ie. Oh; Mm-hmm, Good, etc.) he receives a neutral response from the "client". Inaccurate trainee responses are mildly punished by negative or aggressive responses from the "client".

The first demonstration which follows on the next two pages illustrates program reactions to perfect trainee performance.

```
>>>//load d exer:obj


                                     ****************************************

                                     * PROGRAM COUNSELING EXERCISES         *
                                     * DEVELOPED BY DR. EDWARD W. PEPYNE    *
                                     *                UNIVERSITY OF HARTFORD *
                                     * SUPPORTED BY USOE PROJECT #0-A-004   *

                                     ****************************************


   THIS PROGRAM PROVIDES PRACTICE EXERCISES FOR A VARIETY OF COUNSELING
   STYLES.   THE FOLLOWING EXERCISES ARE CURRENTLY AVAILABLE:

           CODE              STYLE

           CE1    ANALYTICAL PROBLEM SOLVING - MALE CLIENT
           CE2    ANALYTICAL PROBLEM SOLVING - FEMALE CLIENT

   TYPE THE CODE OF THE EXERCISE YOU WISH TO TAKE:>CE1

  TYPE YOUR FIRST NAME:>THOMAS

  TYPE YOUR LAST NAME:>GIBSON


     IN THIS EXERCISE YOU WILL HAVE A SHORT  COUNSELING SESSION WITH A
CLIENT.  YOU WILL COMMUNICATE WITH YOUR CLIENT USING THIS TYPEWRITER.
HE WILL TYPE IN HIS RESPONSE.  WHEN IT'S YOUR TURN TO RESPOND HE WILL
TYPE A CARAT (>).  THEN YOU TYPE IN YOUR RESPONSE.  TYPE NO MORE THAN
70 SPACES PER LINE.  YOU MAY TYPE IN AS MANY LINES AS YOU WISH. AFTER
THE LAST WORD OF YOUR RESPONSE, TYPE AN ASTERISK (*) AND THEN DEPRESS
THE CARRIAGE RETURN BUTTON.  THE CLIENT WILL TERMINATE THE SESSION IN
A POSITIVE, NEGATIVE OR NEUTRAL FASHION DEPENDING ON YOUR THERAPEUTIC
SKILL IN HELPING HIM.

     THE CLIENT YOU ARE ABOUT TO INTERVIEW IS A 19 YEAR OLD WHITE MALE
STUDENT AT A COMMUNITY COLLEGE.  HE COMMUTES FROM HOME WHERE HE LIVES
WITH HIS PARENTS AND AN OLDER BROTHER.  HE HAS A SLIGHT BUILD, AND HE
LOOKS SOMEWHAT YOUNGER THAN HIS AGE. HE APPEARS VERY TENSE AND TIRED.
YOUR OBJECTIVE  IS TO HELP THIS CLIENT TO RATIONALLY IDENTIFY AND EX-
PLORE THE ALTERNATIVES  HE MIGHT PURSUE  TO COPE MORE ADEQUATELY WITH
HIS PRESENT PROBLEM. ASSUME THAT PRELIMINARY RESPONSES ARE COMPLETED.

I've always had trouble at home¬
>You're having trouble at home now*
My brother and I used to fight all the time, but now I try to ignore
him¬
>Now you try to ignore him*
Yeh, I really hate my brother's guts¬
>Let's talk about the reason why you hate his guts*
```

```
He's a bully; he picks on me; takes my things. It's just hell when
he's at home¬
>Because he bullies you and takes your things it's hard to live
>with him*
Yeh, my brother makes life miserable. I can't take it, but I don't
know what to do¬
>You can lick this problem. You could talk with your parents about
>it. You could try to reason with your brother. You could even explore
>the possibility of moving out if necessary*
You know, we've just talked for a little while, but I feel better¬#


                         DIAGNOSTIC ANALYSIS


         NAME:Thomas   Gibson                    EXERCISE: CE1

*******************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
    *       *     *     *     *     *     *     *     *     *     *
      *     *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
*******************************************************************

      1     *  1  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *

      2     *  0  *  1  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *

      3     *  0  *  0  *  1  *  0  *  0  *  0  *  0  *  0  *  1  *

      4     *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  0  *  1  *

      5     *  0  *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  1  *

      6     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      7     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      8     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

*******************************************************************

      TOTAL *  1  *  1  *  1  *  1  *  1  *  0  *  0  *  0  *  5  *

*******************************************************************

 NUMBER OF RESPONSES:   5   NUMBER ACCURATE:   5   PERCENT: 100%

 ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE WAS NEEDED.
 DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RESPONSE CLASS WAS
 EMITTED WHEN REQUIRED.  PROPORTION OF ACCURACY  FOR EACH RESPONSE
 CLASS IS OBTAINED BY COMPARING THE APPROPRIATE DIAGONAL CELL WITH
 THE CORRESPONDING ROW TOTAL.

 KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST. CONNECTIONS
      5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTATEMENT 8/OTHER
 STOP        0
M:END OF JOB
>
```

The diagnostic analysis provided by the program indicates the accuracy of the total performance and permits the trainee to analyze his accuracy in delivering each response class. Inspection of the analysis of "Thomas Gibson's" performance reveals that he emitted each response class as required.

A trainee who emits one or more inaccurate responses during the interview can recover control by delivering accurate responses in accordance with the style of the exercise. A trainee may make up to six inaccurate responses and still cause a positive termination.

The following demonstration is an example of a trainee who loses the client for a short time but then recovers and pursues the interview to a successful conclusion. The introductory portion of the printout was omitted to conserve space.

```
I've always had trouble at home"
>Would you like to tell me about it*
I'm having trouble talking to you'
>Let's talk about the reason for your trouble at home*
My brother and I used to fight all the time, but now I try to ignore
him'
>Mm-hm*
Yeh, I guess it's tough all over these days"
>You're depressed*
I don't feel that you're listening to me"
>Let's examine you trouble with your brother*
Yeh, I really hate my brother's guts'
>There must be some reasons why you hate him*
He's a bully; he picks on me; takes my things. It's just hell when
he's at home'
>Because of him, it's tough living at home*
Yeh, my brother makes life miserable. I can't take it, but I don't
know what to do'
>Look, you can handle this problem. You have several alternatives
>open. We can talk about strategies for dealing with your brother
>and we can explore your parents role in this. Together we can
>find a workable answer. I'm sure of it.*
You know, we've just talked for a little while, but I feel better'#
```

```
                    DIAGNOSTIC ANALYSIS

        NAME:Brad     Schaeffer              EXERCISE: CE1

*********************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
     *      *     *     *     *     *     *     *     *     *     *
        *   *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
*********************************************************************

      1     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *  1  *

      2     *  0  *  0  *  0  *  0  *  0  *  1  *  0  *  0  *  1  *

      3     *  0  *  0  *  3  *  0  *  0  *  0  *  0  *  1  *  4  *

      4     *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  0  *  1  *

      5     *  0  *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  1  *

      6     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      7     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      8     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

*********************************************************************

      TOTAL *  0  *  0  *  3  *  1  *  1  *  1  *  0  *  2  *  8  *

*********************************************************************

 NUMBER OF RESPONSES:   8   NUMBER ACCURATE:   5   PERCENT:  62%

 ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE WAS NEEDED.
 DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RESPONSE CLASS WAS
 EMITTED WHEN REQUIRED.  PROPORTION OF ACCURACY  FOR EACH RESPONSE
 CLASS IS OBTAINED BY COMPARING THE APPROPRIATE DIAGONAL CELL WITH
 THE CORRESPONDING ROW TOTAL.

 KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST. CONNECTIONS
      5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTATEMENT 8/OTHER
```

It can be noted that in the foregoing demonstration the trainee emitted three responses contrary to the required style. He was, however, able to recover control and bring the interview to a positive termination. The analysis indicated that this trainee could improve his accuracy by added practice in discriminating and delivering refocus and accent responses.

Program Counseling Exercise terminates an interview in a neutral manner even though the trainee may emit no accurate responses. This occurs if the trainee emits a high proportion of minimum social stimulus responses. The following is a record of such passive trainee performance.

```
I've always had trouble at home¬
>Mm-hm*
Yeh, I guess it's tough all over these days¬
>You're feeling depressed*
I'm having trouble talking to you¬
>Oh*
It didn't used to be that way¬
>Good*
I feel awful, all mixed up¬
>Hm*
I don't think you or anyone can help me¬
>I'll do whatever I can*
I don't feel that you're listening to me¬
>Hm*
I'm sorry for bothering you. I'll come back when I can talk clearer¬#
```

```
                       DIAGNOSTIC ANALYSIS

       NAME: ROBERT   HARRIS                  EXERCISE: CE1

**********************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
     *      *     *     *     *     *     *     *     *     *     *
         *  *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
**********************************************************************

     1      *  0  *  0  *  0  *  0  *  0  *  2  *  0  *  0  *  2  *

     2      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

     3      *  0  *  0  *  0  *  0  *  1  *  3  *  0  *  1  *  5  *

     4      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

     5      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

     6      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

     7      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

     8      *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

**********************************************************************

     TOTAL  *  0  *  0  *  0  *  0  *  1  *  5  *  0  *  1  *  7  *

**********************************************************************

 NUMBER OF RESPONSES:   7   NUMBER ACCURATE:   0   PERCENT:   0%

 ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE WAS NEEDED.
 DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RESPONSE CLASS WAS
 EMITTED WHEN REQUIRED.  PROPORTION OF ACCURACY  FOR EACH RESPONSE
 CLASS IS OBTAINED BY COMPARING THE APPROPRIATE DIAGONAL CELL WITH
 THE CORRESPONDING ROW TOTAL.

 KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST. CONNECTIONS
      5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTATEMENT 8/OTHER
```

A high proportion of responses contrary to the style of the exercise results in a negative or hostile termination of the interview. The following is a demonstration of inadequate trainee performance.

```
I've always had trouble at home¬
>Could you tell me a little more about your trouble*
I'm having trouble talking to you¬
>Am I doing something that makes you uneasy*
I don't feel that you're listening to me¬
>You don't feel that I understand you*
You're just like my father; he always takes my brother's side¬
>Perhaps we could examine why you feel this way*
My brother and I used to fight all the time, but now I try to ignore
him¬
>In these fights your father always took your brother's side*
I quit, you just don't understand¬#
```

```
                      DIAGNOSTIC ANALYSIS

         NAME:Barry     FRADET                 EXERCISE: CE1

******************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
    *       *     *     *     *     *     *     *     *     *     *
       *    *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
******************************************************************

      1     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *  1  *

      2     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *  1  *

      3     *  0  *  1  *  1  *  0  *  0  *  0  *  0  *  1  *  3  *

      4     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      5     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      6     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      7     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      8     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

******************************************************************

     TOTAL  *  0  *  1  *  1  *  0  *  0  *  0  *  0  *  3  *  5  *

******************************************************************

 NUMBER OF RESPONSES:   5  NUMBER ACCURATE:   1   PERCENT:  20%
```

The simulated interview involving a black female client operates similar to the exercise previously demonstrated. The following demonstration provides a record of perfect trainee performance in Exercise "CE2". The next two pages contain a printout of this performance.

```
THIS PROGRAM PROVIDES PRACTICE EXERCISES FOR A VARIETY OF COUNSELING
STYLES.   THE FOLLOWING EXERCISES ARE CURRENTLY AVAILABLE:

        CODE             STYLE

        CE1    ANALYTICAL PROBLEM SOLVING - MALE CLIENT
        CE2    ANALYTICAL PROBLEM SOLVING - FEMALE CLIENT

 TYPE THE CODE OF THE EXERCISE YOU WISH TO TAKE:>CE2

TYPE YOUR FIRST NAME:>LARRY

TYPE YOUR LAST NAME:>CURRY


     IN THIS EXERCISE YOU WILL HAVE A SHORT  COUNSELING SESSION WITH A
CLIENT.  YOU WILL COMMUNICATE WITH YOUR CLIENT USING THIS TYPEWRITER.
HE WILL TYPE IN HIS RESPONSE.  WHEN IT'S YOUR TURN TO RESPOND HE WILL
TYPE A CARAT (>).  THEN YOU TYPE IN YOUR RESPONSE.  TYPE NO MORE THAN
70 SPACES PER LINE.  YOU MAY TYPE IN AS MANY LINES AS YOU WISH. AFTER
THE LAST WORD OF YOUR RESPONSE, TYPE AN ASTERISK (*) AND THEN DEPRESS
THE CARRIAGE RETURN BUTTON.  THE CLIENT WILL TERMINATE THE SESSION IN
A POSITIVE, NEGATIVE OR NEUTRAL FASHION DEPENDING ON YOUR THERAPEUTIC
SKILL IN HELPING HIM.

     THE CLIENT YOU ARE ABOUT TO INTERVIEW IS A 19 YEAR OLD BLACK GIRL
WHO HAS BEEN IN AN AUTOMOBILE ACCIDENT.  SHE IS ATTRACTIVE EXCEPT FOR
SCARS ON HER FACE AND HAIR SHAVED FROM THE SIDE OF HER HEAD. IT SEEMS
THESE IMPAIRMENTS CAN BE EXPECTED TO HEAL COMPLETELY GIVEN TIME.  SHE
IS WELL GROOMED BUT APPEARS VERY DEPRESSED AND BITTER. YOUR OBJECTIVE
IS TO HELP THIS CLIENT DISCUSS HER PROBLEM RATIONALLY AND TO IDENTIFY
AND EXPLORE ALTERNATIVES AVAILABLE FOR HER AT THIS TIME.  ASSUME THAT
PRELIMINARY RESPONSES HAVE BEEN COMPLETED.

I used to feel so confident about life¬
>You feel confident about life now*
I used to feel confident but now everything seems so hopeless to me¬
>Now everything seems hopeless to you*
I'm just completely discouraged¬
>Tell me about the reasons you feel this way*
Before the accident I was attractive, good to look at, but now I'm a
scarfaced baldy. No one wants to look at me muchless hire me¬
>
```

```
>Because you think that no one wants to look at you or hire you,
>you feel hopeless*
I really wish I had something to look forward to - a job, friends,
something; but I can't see how I can make anything of myself¬
>You have as bright a future as you've ever had. Sure things might
>be a little tough until your injuries heal but they will heal; you
>know that.
>Let's talk about how to work things out in the meantime*
Maybe i've been looking at it wrong; maybe I can lick this problem¬#


                        DIAGNOSTIC ANALYSIS


           NAME:LARRY     CURRY                 EXERCISE: CE2

*******************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
    *       *     *     *     *     *     *     *     *     *     *
      *     *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
*******************************************************************

      1     *  1  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *

      2     *  0  *  1  *  0  *  0  *  0  *  0  *  0  *  0  *  1  *

      3     *  0  *  0  *  1  *  0  *  0  *  0  *  0  *  0  *  1  *

      4     *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  0  *  1  *

      5     *  0  *  0  *  0  *  0  *  1  *  0  *  0  *  0  *  1  *

      6     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      7     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      8     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

*******************************************************************

      TOTAL *  1  *  1  *  1  *  1  *  1  *  0  *  0  *  0  *  5  *

*******************************************************************

 NUMBER OF RESPONSES:   5   NUMBER ACCURATE:   5   PERCENT: 100%

 ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE WAS NEEDED.
 DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RESPONSE CLASS WAS
 EMITTED WHEN REQUIRED.  PROPORTION OF ACCURACY  FOR EACH RESPONSE
 CLASS IS OBTAINED BY COMPARING THE APPROPRIATE DIAGONAL CELL WITH
 THE CORRESPONDING ROW TOTAL.

 KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST. CONNECTIONS
      5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTATEMENT 8/OTHER
```

Evaluation

Twenty-four volunteer students were selected from counselor trainees to participate in an evaluation of Program Counseling Exercises. Twelve students were randomly assigned to each of two groups. The experimental group was required to spend three hours with the programmed text An Analytical Problem Solving Style of Counseling (Madaus, 1970). See Appendix A. The control group was required to spend three hours reading Rational Emotive Therapy: Ellis (Patterson, 1966). The control treatment was selected because the experimental style is actually a subset of Rational Emotive Therapy. Both groups were subsequently subjected to one hour of dydactic instruction in the content of their readings. Following these treatments each subject in both groups were required to participate in the two exercises provided by Program Counseling Exercises. Table 6 presents a summary of group scores by treatments and exercises. An analysis of variance in accordance with a mixed design, one between- and one within subjects variable (Myers, 1966), revealed a significant difference between groups ($F_{1,22}$ = 43.025; $p < .001$). This provides evidence that the diagnostic scoring system discriminates between trained and untrained subjects in terms of the specific objectives of the learning module. A significant difference was found between exercises also ($F_{1,22}$ = 12.03; $p < .005$). This result suggests that exercise "CE2" is somewhat more difficult than exercise "CE1". A summary of the analysis is found in Table 7. No treatment x exercise interaction

TABLE 6

MEANS OF PROGRAM COUNSELING EXERCISE
SCORES BY TREATMENTS AND EXERCISES

	EXERCISE CE1	EXERCISE CE2	GROUP MEANS
EXPERIMENTAL TREATMENT GROUP	72.67	60.17	66.42
CONTROL TREATMENT GROUP	9.75	4.17	6.96
EXERCISE MEANS	41.21	32.17	36.69

N = 12 subjects per cell

TABLE 7

ANALYSIS OF VARIANCE SUMMARY TABLE FOR A MIXED DESIGN TREATMENT GROUPS BY EXERCISES

SOURCE	df	SS	MS	F
Between Subjects				
T (Treatment Groups)	1	42423.52	42423.52	43.025**
S/T	22	21692.17	986.01	
Within Subjects				
E (Exercises)	1	981.02	981.02	12.031*
ET	1	143.52	143.42	1.760 N.S.
SE/T	22	1793.89	81.54	

** P <.001   * p <.005

was observed. It was concluded that Program Counseling Exercise is a valid discriminator between subjects who have achieved ability to operate in the prescribed style and those who have not.

Cost

Program Counseling Exercise takes about 10 minutes to run and uses approximately 15 CPU's. The typical cost is about $3.37 per run.

PROGRAM INTERVIEW ANALYSIS

This program provides an interaction process analysis similar to the diagnostic analysis produced by Program Counseling Exercises. The principle difference is that Program Interview Analysis is designed for use by a supervisor in rating each trainee response in video-taped exercises. The program can be used for rating typescripts as well.

Program Operation

To demonstrate the operation of Program Interview Analysis a typescript of a counseling session conducted by Dr. Albert Ellis in the film series entitled Three Approaches to Psychotherapy[1] was rated in accordance with the criteria established in the learning module. An Ellis interview was selected because the so-called analytical problem solving style used in this project is a simplified subset of Ellis' "Rational Emotive" therapeutic style. The analysis which follows must in no way be interpreted as a criticism of Dr. Ellis' style. It merely reflects to what degree he conformed to an analytical problem solving style as defined in this project. For purposes of this rating a counselor response is defined as counselor verbalization preceded and followed by a client response. Input ratings have been rearranged into four columns to conserve space.

---

[1] Distributed by Psychological Films, 205 W. 20th St., Santa Ana, California 92706

```
                                          ****************************************

                                          * PROGRAM INTERVIEW ANALYSIS           *
                                          * DEVELOPED BY DR. EDWARD W. PEPYNE    *
                                          *              UNIVERSITY OF HARTFORD  *
                                          * SUPPORTED BY USOE PROJECT #0-A-004   *

                                          ****************************************



      THIS PROGRAM ANALYZES A VARIETY OF COUNSELING EXERCISES:
                 CODE           STYLE
                 VE1    ANALYTIC PROBLEM SOLVING
       TYPE THE CODE OF THE STYLE TO BE ANALYZED:>VE1



  TYPE FIRST NAME OF TRAINEE:>ALBERT

  TYPE LAST NAME OF TRAINEE:>ELLIS



ENTER THE CLASS NUMBERS OF THE RESPONSE REQUIRED AND THE RESPONSE
EMITTED (EG. 2/4).  ENTER ONE PAIR PER LINE.  AFTER ALL PAIRS HAVE
BEEN ENTERED TYPE "9/9".
>8/8          >4/4           >3/8          >5/5
>3/3          >3/8           >4/4          >5/5
>3/6          >4/4           >6/6          >4/4
>4/4          >4/4           >3/3          >4/4
>4/4          >4/5           >4/4          >5/5
>4/4          >4/4           >4/4          >5/5
>4/4          >5/8           >4/4          >5/5
>3/8          >5/8           >5/5          >5/5
>4/8          >5/8           >5/5          >8/8
>4/4          >4/5           >5/5          >9/9
>4/4          >              >
>
```

```
                         DIAGNOSTIC ANALYSIS

        NAME: ALBERT   ELLIS                    STYLE: VE1

**********************************************************************

*  RESPONSE *     *     *     *     *     *     *     *     *     *
  * EMITTED *     *     *     *     *     *     *     *     *     *
     *      *     *     *     *     *     *     *     *     *     *
        *   *  1  *  2  *  3  *  4  *  5  *  6  *  7  *  8  *TOTAL*
RESPONSE*   *     *     *     *     *     *     *     *     *     *
REQUIRED  * *     *     *     *     *     *     *     *     *     *
**********************************************************************

      1     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      2     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      3     *  0  *  0  *  2  *  0  *  0  *  1  *  0  *  3  *  6  *

      4     *  0  *  0  *  0  * 16  *  2  *  0  *  0  *  1  * 19  *

      5     *  0  *  0  *  0  *  0  *  9  *  0  *  0  *  3  * 12  *

      6     *  0  *  0  *  0  *  0  *  0  *  1  *  0  *  0  *  1  *

      7     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  0  *

      8     *  0  *  0  *  0  *  0  *  0  *  0  *  0  *  2  *  2  *

**********************************************************************

     TOTAL  *  0  *  0  *  2  * 16  * 11  *  2  *  0  *  9  * 40  *

**********************************************************************

     NUMBER OF RESPONSES:  40   NUMBER ACCURATE:  30   PERCENT:  75%

     ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE WAS NEEDED
     DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RESPONSE CLASS WAS
     EMITTED WHEN REQUIRED.  PROPORTION OF ACCURACY  FOR EACH RESPONSE
     CLASS IS OBTAINED BY COMPARING THE APPROPRIATE DIAGONAL CELL WITH
     THE CORRESPONDING ROW TOTAL.

    KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST. CONNECTIONS
         5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTATEMENT 8/OTHER
```

Evaluation

Program Interview Analysis is no more valid or reliable than the supervisor who uses it. The program does, however, consistently provide an accurate matrix of pairs of input data. Future studies of rater reliability and validity are planned.

Cost

The printout demonstrated took about five minutes to run and consumed 2 CPU's. The cost of this program is about $1.07 per typical run.

PROGRAM INTERVIEW CONTENT ANALYSIS

This program provides a linguistic analysis of the content of a counseling interview. It has been designed as a tool for research related to the outcome of counselor-client interaction. For example, increased use of self-references, such as "I", "we", "me", and "us" (Kennedy & Zimmer, 1968), positive affect words, such as "love", "like", "happy", "joy", etc. (Crowley, 1970) have been suggested as viable enabling objectives of the counseling process. Increases or decreases in other client response classes have also been suggested as appropriate enabling goals. Program Interview Content Analysis provides a tool to begin to objectively study what happens to client verbal behavior as the result of varied counseling styles. Output from the program also possesses the potential for use in a factor analytic approach to interview content analysis (Haraway & Iker, 1966).

Program Operation

The sample interview listed below was selected to demonstrate the operation of Program Interview Content Analysis.

```
//list SAMPLE:INT
Pepyne: Talk about anything you'd like.  Client: It's(talking) hard.
Let's talk about school.  I like it(school).  Pepyne: Mm-hm.  Client:
Well, Dr. Pepyne, I'm a freshman here(school).  I plan to major in
Education.  Dr. Smith is my advisor.  He(Smith) is a nice guy.  Pepyne:
He's(Smith) nice.  Client: Yeh, I like him(Smith) very much.
END/
>
```

Notice that pronoun referents have been enclosed in parentheses, and attached to the pronouns. The printout of program operation follows on the next two pages.

```
 $$load d contanal:obj
```

```
ENTER TEXT FILE NAME
>SAMPLE:INT
ENTER TITLE OF REPORT
>SAMPLE INTERVIEW FOR FINAL REPORT
ENTER KEY-WORDS - ONE TO A LINE
>Pepyne
>Client
WHAT WOULD YOU LIKE TO CALL THE OUTPUT REPORT?
>SAMPLE:OUT
M:END OF JOB
>
```

The program automatically catalogues and stores the results of its analysis. In the demonstration above the analysis was filed as dataset SAMPLE:OUT. The output can be listed in the following manner.

```
//list SAMPLE:OUT
     TITLE: SAMPLE INTERVIEW FOR FINAL REPORT
                    ANALYSIS OF PEPYNE          RESPONSES
     ALPHABETIC LISTING          FREQUENCY           PROBABILITY
     (SMITH                      0001                0.125
     ABOUT                       0001                0.125
     ANYTHING                    0001                0.125
     HE'S                        0001                0.125
     LIKE                        0001                0.125
     MM-HM                       0001                0.125
     NICE                        0001                0.125
     TALK                        0001                0.125
     YOU'D                       0001                0.125
TOTAL WORDS BY  PEPYNE          00008 DIFFERENT WORDS=008 DIFF/TOTAL=
SENTENCES BY PEPYNE          003 AVERAGE NO. WORDS/SENTENCE=2.666
RESPONSES BY PEPYNE          003 AVERAGE SENTENCES PER RESPONSE=1.000
                                 AVERAGE WORDS PER RESPONSE=2.666
PERCENTS CONTRIBUTED BY PEPYNE          TO TOTAL INTERVIEW:
WORDS=0.173
SENTENCES=0.230
RESPONSES=0.500
```

Printout of the analysis continues on the next page.

```
    TITLE: SAMPLE INTERVIEW FOR
                    ANALYSIS OF CLIENT          RESPONSES
    ALPHABETIC LISTING             FREQUENCY           PROBABILITY
    (SCHOOL                        0002                0.052
    (SMITH                         0002                0.052
    (TALKING                       0001                0.026
    A                              0002                0.052
    ABOUT                          0001                0.026
    ADVISOR                        0001                0.026
    DR                             0002                0.052
    EDUCATION                      0001                0.026
    FRESHMAN                       0001                0.026
    GUY                            0001                0.026
    HARD                           0001                0.026
    HE                             0001                0.026
    HERE                           0001                0.026
    HIM                            0001                0.026
    I                              0003                0.078
    I'M                            0001                0.026
    IN                             0001                0.026
    IS                             0002                0.052
    IT                             0001                0.026
    IT'S                           0001                0.026
    LET'S                          0001                0.026
    LIKE                           0002                0.052
    MAJOR                          0001                0.026
    MUCH                           0001                0.026
    MY                             0001                0.026
    NICE                           0001                0.026
    PEPYNE                         0001                0.026
    PLAN                           0001                0.026
    SCHOOL                         0001                0.026
    SMITH                          0001                0.026
    TALK                           0001                0.026
    TO                             0001                0.026
    VERY                           0001                0.026
    WELL                           0001                0.026
    YEH                            0001                0.026
TOTAL WORDS BY  CLIENT            00038 DIFFERENT WORDS=032 DIFF/TOTAL= 0.842
SENTENCES BY CLIENT             010 AVERAGE NO. WORDS/SENTENCE=3.800
RESPONSES BY CLIENT             003 AVERAGE SENTENCES PER RESPONSE=3.333
                                    AVERAGE WORDS PER RESPONSE=12.666
PERCENTS CONTRIBUTED BY CLIENT           TO TOTAL INTERVIEW:
WORDS=0.826
SENTENCES=0.769
RESPONSES=0.500
>
```

Evaluation

A Manual count of the demonstration paragraph can quickly convince the interested reader that Program Interview Content Analysis faithfully and accurately counts words and performs the required analysis. This program is noteworthy for its extreme efficiency. The text of a thirty minute interview, about 14 double spaced pages containing over 3000 words can be analyzed and filed by this program in less than two minutes. Subsequent printing of the analysis takes considerably longer. The complete efficacy and validity of this procedure for assessing the attainment of enabling counseling objectives has yet to be demonstrated. However, this program provides trainees a powerful economical tool to use in an empirical evaluation of their evolving competencies.

Cost

Program Interview Content Analysis analyzes the text of a typical 10 minute counseling exercise in less than 30 seconds using approximately 4 CPU's. Printing time is approximately eight minutes using 2 CPU's. The approximate cost of operating Program Interview Content Analysis is $2.02.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

Within the context of a continuing process of programmatic research (Zimmer, Pepyne, Hackney & Crowley, 1969) and an empirical systems approach to curriculum development in counselor education (Pepyne, Zimmer & Hackney, 1969) this project designed, developed and evaluated an interactive computer system for use in counselor education and assessment.

Conclusions

An interactive computer system for the Sequential Automated Monitoring of Counselor Repertoire Development (SAMOCORD) was produced through the development and evaluation of four separate but related components:

1. Program Self-Assessment -- A trainee-computer interactive testing program which administers and scores tests for a large number of topic areas. From a bank of a variety of verified item pools (25 items each) the computer has been programmed to construct, by stratified random sampling, a great variety of criterion referenced, confidence weighted 5 item tests of equivalent form. (Correlation with 50 item criterion test; $r = .84$)

2. Program Counseling Exercise -- A simulated social interaction program in which the computer assumes the role of a disturbed client and responds differentially in terms of the trainee's accuracy in operating within a given counseling style. Upon completion of the exercise, the computer prepares a diagnostic analysis of the trainee's performance. (Discrimination of a criterion trained group from a criterion untrained group; $F = 43.025$; $p < .001$)

3. Program Interview Analysis -- A supervisor-computer interactive program which allows a supervisor, while observing an interview, interview segment or recording or transcript thereof, to code each discrete counselor response. Using these codings as input the program produces an interaction process analysis with a diagnostic statistical summary of the accuracy of the counselor's performance with respect to a criterion style. (75% agreement with generalized criterion referent)

4. Program Interview Content Analysis -- A program which accepts an uncoded typescript of a counseling interview as data and produces separate summaries, concordances, and linguistic analyses of counselor and client verbal behavior in the interview. (100% agreement with manual coding and analyses)

The development, evaluation and trial applications of the SAMOCORD system has demonstrated both the efficacy of an interactive computer system for use in counselor education and assessment as well as the viability of the Counselor Repertoire Development Model. However, the SAMOCORD System as developed to date must be considered a prototype model. The model, however, is robust, flexible, and permits both refinements and expansion.

Recommendations

The following recommendations are offered to guide the future expansion and development of the SAMOCORD System.

1. That Program Self-Assessment, Program Counseling Exercise, and Program Interview Analysis be expanded to include a comprehensive array of counseling styles.

2. That the programs cited above be modified to access a common product output bank to facilitate evaluation of trainee development and aptitude - treatment interactions within the training process.

3. That Program Counseling Interview Analysis be modified to provide interview content analyses in accordance with the rules for unitizing interviews developed by Auld and White (1956) and the procedures for response class categorization developed by Kennedy and Zimmer (1968), Pepyne and Zimmer, (1970) and Crowley (1970).

4. That a new version of the above program be developed such that it would accept an uncoded typescript of a counseling interview and from this input produce a diagnostic analysis similar to that now produced by Program Interview Analysis. Inclusion of such a program would enable the SAMOCORD System to provide counselor educators and practioners with a powerful research tool for efficiently and reliably investigating the relationships of operationally defined, criterion referenced objectives. This single tool could play a major role in transforming counseling from a capricious art to a predictable technology.

In closing this report, it is both important and appropriate to re-establish perspective. The computerized components of the SAMOCORD System have been demonstrated to be interesting, motivating and autoinstructional. Some unsophisticated observers have even commented that the system is "cute". These hardware configurations are tools, the tip of the iceberg, which implement the application of empirically derived knowledge to educational and therapeutic processes. The products of this project are offered in the total context of an empirical approach to curriculum development. Within this context previously "impossible" educational problems are becoming amenable to rational solution.

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APPENDIX A

EXPERIMENTAL LEARNING MODULE

UNIT TITLE
An Analytical Problem Solving Style of Counseling

I. UNIT OF LEARNING

A. General Objective:

Trainee's will learn to conduct a counseling interview using an analytical problem solving style. Their counseling behavior will be such to cause clients to state specific problems in a present time perspective, to rationally analyze cause and effect relationships and to explore alternative solutions.

B. Specific Objectives:

1. Given a client statement of a past problem or behavior, to refocus this statement into a present time perspective.

    a. Example -
    Client: I've always had trouble keeping friends.
    Counselor: You still have trouble keeping friends.

    b. Criteria for evaluating a refocusing response.
    (1) The tense of the verb(s) is changed from past to present.
    (2) A present oriented adverb such as "still" or "now" is added for emphasis.
    (3) Except for the revisions stated above, the client's words are restated.

2. Given a compound or complex client statement of both a past and present problem or behavior, to ignore the statement of past conditions and accent the statement of the present situation.

    a. Example -
    Client: At first the teacher didn't like me but now she seems to accept me.
    Counselor: You think that she seems to accept you now.

b. Criteria for evaluating an accenting response.
   (1) Response includes the word(s) "you" or "you're" and restates that portion of the client statement which refers to a present situation.
   (2) Response includes as many of client's words as gramatically practicable (at least four words).
   (3) Response does not include that portion of the client's statement which refers to past events or conditions.

3. Given a client statement which expresses an emotional condition or feeling, to establish a cognitive set by converting the affective response to a cognitive statement.

   a. Example -
      Client: I hate this school.
      Counselor: Let's talk about the reasons why you hate this school.

   b. Criteria for evaluating a cognitive set response.
      (1) Response includes a reference to the expressed feeling but emphasizes cognitive activity such as "examine", "explore", "analyze", "talk about", "check out", etc.
      (2) The object of the counselor response is "reason" or "reasons".

4. Given a client statement or series of client statements which state or imply a cause and effect relationship, to succinctly state the connection between cause and effect.

   a. Example -
      Client: I'm not going to college. No sir, I'm not going to throw my whole academic reputation on the line again.
      Counselor: Because you fear failure, you're not going to college.

   b. Criteria for evaluating connection responses.
      (1) Response states cause first followed by a statement of the effect.
      (2) Response emphasises connection by use of a conjunction such as "because", "since".
      (3) A sub-set of the response class is one where the client provides a causative statement and the counselor responds

with a statement of effect. (eg.
Client: I lost interest in math.
Counselor: So you flunked the course.)
This sub-set is characterized by the introductory words "so", "therefore", etc.

5. Given the client's explanation of a problem and a classification of its cause and effect, to reinforce the client's potential ability to solve the problem and to expand his awareness of alternative solutions.

   a. Example -
      Client: I really want to go to college, but I don't think that there are any colleges that'll accept a guy like me.
      Counselor: You can be accepted at college that's right for you. You can apply to the community college here in town or you could apply to one of the less competitive colleges we've already identified.

   b. Criteria for evaluating alternative expansion responses:
      (1) The response consists of two parts: the first part reinforces the client's ability to successfully carry out alternatives and the second states two or more alternatives that the client can pursue.
      (2) The client's ability to carry out alternatives is emphasized also by the use of auxiliary verbs such as "can", "could", or "might" in statement of alternatives.

II. UNIT OF INSTRUCTIONAL ACTIVITIES

1. Read and execute the programmed text Analysis of Behavior (Holland and Skinner, 1961).

2. Interact with Program Self-Assessment: Test CT4.

3. Read "Rational Emotive Therapy: Ellis" by C. H. Patterson (1966).

4. Read and execute the programmed unit "An Analytical Problem Solving Style of Counseling" (Madaus, 1970).

5. Interact with Program Self-Assessment: Test CT1.

6. Interact with Program Counseling Exercise: CE1 and CE2.
7. Participate in Video-taped exercise.
8. Review output of Program Interview Analysis.
9. Prepare typescript of video-taped exercise.
10. Analyze first half and second half of typescript separately using Program Interview Content Analysis. Compare the analyses. Compare your results with other trainees and with the interaction analysis. Prepare to discuss inferences.
11. De-briefing discussion of experiences and results.

Set 1

Introduction to the Analytical Problem Solving
Style of Counseling

Turn to next page & begin

1-12 present	1-13 The counselor insists that the client examine the present nature of his explicitly stated present problem. This is called _ _ _ _ _ _ _ _ _ _ _ the interview.
1-25 past	1-26 One of the techniques for shifting past action to present time is called _ _ _ _ _ _ _ _ _ _ _. An additional technique is called accenting.
1-38 connections	1-39 The offering of alternative solutions is the third part or characteristic of the _ _ _ _ _ _ _ _ _ _ problem solving style.

	A counselor may use a variety of counseling styles.
1-13 structuring	1-14 The counselor makes a judgement about the cause of the client's present problem while _ _ _ _ _ _ _ _ _ _ _ _ the interview.
1-26 refocusing	1-27 A technique whereby the counselor restates present behaviors or problems and ignores past behaviors is called _ _ _ _ _ _ _ _ _.
1-39 analytical	1-40 The counselor attempts to always offer _ _ _ _ _ _ _ _ _ _ _ _ solutions so that the final outcome is a client decision.

Analytical problem solving is one _ _ _ _ _ of counseling.

1-14

structuring

1-15

His professional knowledge and understanding of behavior enables the counselor to make a _ _ _ _ _ _ _ _ _ about the nature of the client's present problem.

1-27

accenting

1-28

The counselor forces the client to solve his problems in a present time perspective by accenting (restating) only present _ _ _ _ _ _ _ _ _ _.

1-40

alternative

1-41

The technique whereby the counselor offers alternative _ _ _ _ _ _ _ _ _ is called expanding alternatives.

style	The counselor helps the client to analyze his problem in the style called _ _ _ _ _ _ _ _ _ _ _ problem solving.
1-15 judgement	1-16 The analytical problem solving style places a heavy emphasis on the counselor's professional _ _ _ _ _ _ _ _ _ _ to determine the causes of the client's present problem.
1-28 behaviors or problems	1-29 Two techniques that focus client problems into a present time perspective are refocusing and _ _ _ _ _ _ _ _ _ _.
1-41 solutions	1-42 The technique called ability potential is always coupled with the technique of expanding _ _ _ _ _ _ _ _ _ _ _ _ _.

analytical	The counselor participates in helping the client solve his _ _ _ _ _ _ _ _.
1-16 knowledge or judgement	1-17 After the counselor uses his professional knowledge to analyze the _ _ _ _ _ of the client's present problem, he then offers potential solutions or alternatives.
1-29 accenting	1-30 The first major characteristic of the analytical problem solving style is the focusing of an explicitly stated client problem into a present time perspective by using the techniques of (1) _ _ _ _ _ _ _ _ _ _ _ and (2) _ _ _ _ _ _ _ _ _ _.
1-42 alternatives	1-43 A technique whereby the counselor supports the client's ability to make a choice and carry through alternatives is called a statement of _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _.

problem	In the analytical problem solving style the counselor helps the client analyze his _ _ _ _ _ _ _ by setting directions for its solution.
1-17 cause	1-18 The counselor, using the analytical problem solving style, should offer the client more than one possible solution or _ _ _ _ _ _ _ _ _ _ _ _.
1-30 (1) refocusing (2) accenting	1-31 An objective analysis in order to determine the causes and effects of the client's present problem is the second major _ _ _ _ _ _ _ _ _ _ _ _ _ _ of the analytical problem solving style.
1-43 ability potential	1-44 One of the characteristics of the analytical problem **styles is offering alternative** solutions to the client in helping him solve his present problems and is accomplished by using the techniques of stating ability potential and _.

1-5 problem	The analytical problem solving style is a process by which the counselor analyzes the client problem by setting _ _ _ _ _ _ _ _ _ _ _ _.
1-18 alternative	1-19 The _ _ _ _ _ _ _ _ _ _ _ _ problem solving style contains three parts or characteristics.
1-31 characteristic	1-32 The counselor must first deal with the problem in an analytical way before he can determine the _ _ _ _ _ and effect of the client's problem.
1-44 expanding alternatives	1-45 The counselor always deals with an explicitly stated client problem when he employs the _ _ _ _ _ _ _ _ _ _ _ problem solving style.

directions	In the analytical problem solving style the counselor deals only with present _ _ _ _ _ _ _ _ _.
1-19 analytical	1-20 In the first _ _ _ _ of analytical problem solving style the counselor focuses all client responses in a present time perspective.
1-32 cause	1-33 Dealing with a problem in an _ _ _ _ _ _ _ _ _ _ _ way is called establishing a cognitive set.
1-45 analytical	1-46 The problem must always be _ _ _ _ _ _ _ _ _ _ _ stated by the client and the counselor must always focus past behavior into a present time perspective.

problems	The client in the analytical problem solving style must always explicitly state his _ _ _ _ _ _ _ _ problem.
1-20 part or characteristic	1-21 The counselor forces the client to handle his explicitly stated present problems by focusing all client responses in a present time _ _ _ _ _ _ _ _ _ _ _ _.
1-33 analytical	1-34 The establishing of a _ _ _ _ _ _ _ _ _ _ set forces the client to examine his problem in an analytical way and produces a style of expected client response.
1-46 explicitly	1-47 The two techniques of focusing past behaviors into _ _ _ _ _ _ _ _ time are refocusing and accenting.

present

Adjustment in one's job or in school may represent a present problem that is _ _ _ _ _ _ _ _ _ _ _ stated.

1-21

perspective

1-22

The counselor uses two techniques to focus in a _ _ _ _ _ _ _ _ time perspective.

1-34

cognitive

1-35

Establishing a _ _ _ _ _ _ _ _ _ _ _ _ _ _ is one technique of objective analysis in t[illegible] analytical problem solving style.

1-47

present

1-48

After _ _ _ _ _ _ _ _ _ _ _ the client's problems into a present time perspective the counselor analyzes and determines both the causes and effects of the client's behavior.

explicitly	Two common problem areas may be adjustment to one's job or _ _ _ _ _ _.
1-22 present	1-23 One of the two _ _ _ _ _ _ _ _ _ _ _ is called refocusing.
1-35 cognitive set	1-36 After the counselor has analyzed the clients problem in an objective _ _ _ _ _ _ _ _ _ _ _ style he can then determine the causes and effects of the client's problem.
1-48 refocusing	1-49 The two procedures which enable the counselor to determine the _ _ _ _ _ and effects of the client's behavior are establishing a cognitive set and establishing connections.

school	Social or family difficulties or other explicitly stated behaviors which are occuring at the present time might represent other _ _ _ _ _ _ _ _ areas.
1-23 techniques	1-24 The technique that shifts past actions to present time is called _ _ _ _ _ _ _ _ _ _ _.
1-36 analytical	1-37 Determining and relating to the client the causes and _ _ _ _ _ _ _ _ of his present problem is a technique called establishing connections.
1-49 cause	1-50 After the counselor has established a _ _ _ _ _ _ _ _ _ _ set and determined the cause and effects of the clients behavior he is then able to offer alternative solutions.

problem
or
adjustment

The counselor structures the interview in order to focus on those problems that are occurring at the _ _ _ _ _ _ _ time.

< To page 1

1-24

refocusing

1-25

The counselor helps the client to focus in a present time perspective in solving his problem by the technique of refocusing which shifts _ _ _ _ action to present time.

< To page 1

1-37

effects

1-38

Two additional parts of the analytical problem solving style are establishing a cognitive set and establishing _ _ _ _ _ _ _ _ _ _ _.

< To page 1

1-50

cognitive

End of Set 1

Set 2

Characteristics and Techniques

Turn to next page & begin >

2-18

adverbs
or
words

2-19

Examples of other _ _ _ _ _ _ _ _ employed in the technique called refocusing might be now or presently.

2-37

characteristic

2-38

The counselor must examine the client's problem in an analytical manner before he can determine the cause and _ _ _ _ _ _ _ of the client's present problem.

2-56

establish
connections

2-57

The counselor statement, "Let's examine again the reasons why you think you will fail." is an example of establishing a _ _ _ _ _ _ _ _ _ _ set.

	The first major characteristic of the analytical problem solving style of counseling is the focusing of behavior in a present time ___________.
2-19 adverbs or words	2-20 The client statement "For as long as I can remember I've always hated my father." and the counselor response, "You hate your father now." would be another example of the technique called ___________.
2-38 effect	2-39 An analytical method of examining the client's ________ problem is called establishing a cognitive set.
2-57 cognitive	2-58 The counselor statement, "Tell me more about the reasons for your shyness." is an example whereby the counselor attempts to cognitively explore (1) ______ and (2) _______ relationships.

perspective	The counselor can deal only with a problem that is explicity stated by the client when focusing behavior into a _ _ _ _ _ _ _ _ time perspective.
2-20 refocusing	2-21 In the technique called refocusing the client always refocuses past behavior into a present time perspective by shifting the verb tense from past to _ _ _ _ _ _ _ _ tense.
2-39 present	2-40 An expected style of client responses is established by using the technique called establishing a _ _ _ _ _ _ _ _ _ _ set.
2-58 (1) cause (2) effect	2-59 The first task that the counselor employs when analyzing the client's present problem is called establishing a _ _ _ _ _ _ _ _ _ _ _ _ _.

present	The two techniques a counselor uses to focus past behaviors into a present time _ _ _ _ _ _ _ _ _ _ _ _ are called refocusing to present time and accenting statements of present problems.
2-21 present	2-22 The counselor also employs an adverb which emphasizes a present time perspective as well as changing the verb from _ _ _ _ tense to present tense.
2-40 cognitive	2-41 An analytical, rational style occurs when the counselor establishes a cognitive _ _ _.
2-59 cognitive set	2-60 The counselor helps the client discriminate the cause and effect of his present problem through eliciting from the client a _ _ _ _ _ _ _ _ _ style of responding.

perspective	Present time perspective is gained by refocusing or focusing client _________.
2-22 past	2-23 The first technique for focusing in a present time perspective is called ___________. The second technique is called accenting.
2-41 set	2-42 The counselor statement "Let's talk a little about your shyness..." is an example of establishing a __________ set.
2-60 cognitive	2-61 The first task of the procedure called discrimination of cause and effect is the process of cognitive clarification. The second task is an explanation of the cause and ______ of the client's present problem.

behavior	In order to focus client behavior the technique of accenting is used, where as the technique of refocusing is used to refocus client _________.
2-23 refocusing	2-24 A technique **whereby** the counselor restates only present behavior and ignores references to past behavior is called __________.
2-42 cognitive	2-43 "Let's examine the reasons why you are failing." is another example of establishing a __________ set.
2-61 effect	2-62 The counselor statement, "Your problem relationship with authority figures is the reason why you're having such difficulty on your job." is an example where a counselor gives an ____________ of the cause and effect of the client's present problem.

2-5 behavior	The techniques by which the counselor refocuses past events to present time is called ___________.
2-24 accenting	2-25 The client statement "I've had trouble adjusting to my job, but I seem to be doing better at it now." and the counselor response, "You're doing better at it now." is an example of the technique called __________.
2-43 cognitive	2-44 In both examples the counselor distances himself from the client by dealing with cognitive statements rather than feeling statements in the technique called establishing a _____________.
2-62 explanation	2-63 The counselor statement "Your fear of failing is the reason why you've chosen not to go to college is another example of the counselor establishing ______________ for the cause and effect of the client's problem.

2-6 refocusing	2-7 The counselor makes an explicit statement encouraging the client to express the "here and now" aspects of his problem when using the technique called ___________.
2-25 accenting	2-26 When given two client statements, one in the past and one in the present, the counselor always restates the ________ action in the technique called accenting.
2-44 cognitive set	2-45 The counselor in the technique called establishing a cognitive set deals with cognitive statements rather than ________ statements.
2-63 connections	2-64 The counselor when employing the technique called discrimination of cause and effect can perform two tasks. The first is called cognitive clarification and the second is called establishing ____________ for the cause and effect of the client's problem.

2-7 refocusing	2-8 The following counselor statement "Tell me about your present difficulties." is an example of the _ _ _ _ _ _ _ _ _ _ called refocusing.
2-26 present	2-27 When presented with two options the counselor not only focuses on present behavior but ignores past behavior in the _ _ _ _ _ _ _ _ _ _ called accenting.
2-45 feeling	2-46 The counselor does not ignore feelings but shifts feeling statements into _ _ _ _ _ _ _ _ _ _ statements by utilizing an analytical approach.
2-64 connections	2-65 After the counselor has focused behavior into a present time perspective, has established a cognitive set, and has discriminated cause and _ _ _ _ _ _ relationships, he can then offer alternative solutions to the client's present problem.

2-8 technique	2-9 The counselor, by employing such a statement, is beginning a contractual agreement with the client and is _ _ _ _ _ _ _ _ _ _ _ client action into a present time perspective.
2-27 technique	2-28 The client statement, "I've done so poorly in high school that I don't know whether I'll be accepted in college." The counselor response would be "You don't know whether you'll be accepted in college." is another example of the technique called _ _ _ _ _ _ _ _ _ _.
2-46 cognitive	2-47 In the technique called establishing a cognitive set the counselor shifts feeling statements into _ _ _ _ _ _ _ _ _ _ statements.
2-65 effect	2-66 The offering of _ _ _ _ _ _ _ _ _ _ _ _ _ to the client's present problem is a technique called expanding alternatives.

refocusing	Implicit in the counselor statement, "Tell me about your present difficulties." is the statement (and I will listen) and this is the beginning of the counselor-client contractual _ _ _ _ _ _ _ _ _ _.
2-28 accenting	2-29 The counselor chose to accent by restating the client behavior that was expressed in present time and ignored the behavior that was expressed in _ _ _ _ time.
2-47 cognitive	2-48 The client statement "I'm angry." might be followed by the counselor's response "Let's examine the reasons for your anger." This is another example of establishing a _ _ _ _ _ _ _ _ _ _ _ _.
2-66 alternatives	2-67 The counselor always provides support for the client when he employs the technique called _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _.

2-10 agreement	2-11 The counselor uses an explicit statement initially to focus the client's statements into a present time perspective and to set up the beginning of a _____________ agreement.
2-29 past	2-30 In the technique called accenting the counselor focuses on present action and ignores client behavior that was expressed in ____ time which influences the client to focus in a present time perspective.
2-48 cognitive set	2-49 The counselor establishes a definite style of client responses by shifting client feeling statements to cognitive ___________.
2-67 expanding alternatives	2-68 The counselor supports the client by reinforcing the fact that the client can carry out the attention given in the technique called __________ _____________.

2-11 contractual	Although the counselor establishes a _ _ _ _ _ _ _ _ _ _ _ agreement with the client to focus on problems in a present time perspective, the client may continue to state his problems in a past time perspective.
2-30 past	2-31 Accenting and refocusing are two techniques which enable the client to focus in a - - - - - - - time perspective.
2-49 statements	2-50 By shifting all feeling statements the counselor establishes a definite _ _ _ _ _ of client response which allows the counselor to examine his problem in an analytical manner.
2-68 expanding alternatives	2-69 The counselor using the analytical problem solving style should offer the client several alternatives or solutions when employing the technique called - - - - - - - - - - - - - - - - - - - - - - -.

2-12 contractual	2-13 The client statement "I have always had trouble in math." is an example of client behavior expressed in a past time _ _ _ _ _ _ _ _ _ _ _ _.
2-31 present	2-32 The technique by which the counselor focuses past behavior into a present time is called _ _ _ _ _ _ _ _ _ _ _.
2-50 style	2-51 The establishing of a _ _ _ _ _ _ _ _ _ _ set is one technique for analyzing the client's present problem. The second technique is called establishing connections.
2-69 expanding alternatives	2-70 The counselor statement "I think you can achieve better is you select courses around your interest in science or if you see the relationship between other disciplines and your eventual goal." This represents an example of _ with support.

perspective	The counselor, using the analytical problem solving style of counseling, must focus past behaviors into a present time perspective through the technique called _ _ _ _ _ _ _ _ _ _ _.
2-32 refocusing	2-33 The counselor changes the verb tense from past to present and adds a present time adverb in order to shift past behavior to a _ _ _ _ _ _ _ _ time perspective.
2-51 cognitive	2-52 After the counselor has recognized the general nature of the client's problem he helps the client to examine the cause and _ _ _ _ _ _ _ relationship of his present problem.
2-70 expanding alternatives	2-71 Notice that the counselor stated the client's potential to succeed in school and offered two possible alternatives to success in the technique called _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

2-14 refocusing	2-15 The counselor response to a client statement, "I've always has trouble in math." would be "You still have trouble in math." This technique would be called ___________.
2-33 present	2-34 Refocusing is one technique for focusing in a present time perspective, the other technique is called ___________.
2-52 effect	2-53 The counselor must first recognize the client's present problem before he can discriminate a cause and _______ relationship.
2-71 expanding alternatives	2-72 The counselor should offer several possible ___________ when employing this technique.

2-15 refocusing	2-16 Notice what the counselor did. He reflected back the client's statement and changed the verb tense from past to present time and in doing this refocused past action to _ _ _ _ _ _ _ _ time perspective.
2-34 accenting	2-35 A technique that restates present behaviors and ignores past behaviors is called _ _ _ _ _ _ _ _ _ _.
2-53 effect	2-54 A formal, pedantic examination of the cause and effect of the client's present problem is a technique called _.
2-72 solutions or alternatives	End of Set 2

present	In the counselor statement, "You still have trouble in math." The counselor not only shifted the verb tense from past to present but also emphasized a present time _ _ _ _ _ _ _ _ _ _ _ _ by inserting the adverb "still".
2-35 accenting	2-36 The first major characteristic of the analytical problem solving style is the refocusing of past behaviors into a present time perspective through the utilization of the techniques of refocusing and _ _ _ _ _ _ _ _ _ _.
2-54 establishing connections	2-55 When rationally analyzing a client's present problem the counselor first establishes a (1) _ _ _ _ _ _ _ _ _ _ set and then attempts to establish (2) _ _ _ _ _ _ _ _ _ _ _ _.

2-17

perspective

2-18

The counselor couls also have used other _ _ _ _ _ _ _ _.

< To page 14

2-36

accenting

2-37

An objective analysis in order to determine the cause and effects of the client's present problem is the second major _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ of the analytical problem solving style.

< To page 14

2-55

(1) cognitive
(2) connections

2-56

The counselor listens carefully to the cognitive reasons stated by the client to explain his problem and then attempts to objectively _ among the reasons stated.

< To page 14

Set 3

Review of Characteristics and Techniques

Turn to next page & begin >

3-5

connections

3-6

The third major _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ of the analytical problem solving style is the offering of solutions or alternatives with supportive measures so the client can pursue a solution to his problem.

3-11

accenting

3-12

The counselor statement, "Your problem relationships with authority figures is the reason why you're having such difficulty on your job." is an example of _ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _.

3-17

cognitive set

3-18

The counselor statement, "Tell me about your present difficulties." is an example of

_ _ _ _ _ _ _ _ _ _ _.

	The first major characteristic of the analytical problem solving style is focusing in a ______ time perspective.
3-6 characteristic	3-7 The two combined techniques whereby the counselor offers possible solutions with support are called expanding (1) ______________ and ability (2) __________.
3-12 establishing connections	3-13 Client statement, "I've had trouble adjusting to my job, but I seem to be doing better at it now." Counselor response, "You're doing better at it now. is an example of __________.
3-18 refocusing	3-19 Client statement, "For as long as I can remember I've always hated my father." Counselor response "You hate your father now." is an example of ___________.

present	The two techniques for focusing in a present time perspective are refocusing and __________.
3-7 (1) alternatives (2) potential	3-8 The following are examples of: 1. refocusing or restatement 2. establishing a cognitive set or establishing connections 3. ability potential and expanding alternatives (continue to next page)
3-13 accenting	3-14 The counselor statement, "Tell me more about the reasons for your shyness." is an example of establishing a __________ ___.
3-19 refocusing	3-20 The client statement, "I've always had trouble in math." The counselor response, "You still have trouble in math." is an example of __________.

3-2 accenting	3-3 Refocusing and accenting are two techniques for focusing in a present time _ _ _ _ _ _ _ _ _ _ _.
3-8	3-9 The client statement, "I'm angry." and the counsel response, "Let's examine the basis of your anger." is an example of establishing a _ _ _ _ _ _ _ _ _ _ _ _ _.
3-14 cognitive set	3-15 The counselor statement, "You can make friends, if you leave home or involve yourself in social activities." is an example of _ with a statement of ability potential.
3-20 refocusing	End of Set 3

perspective	An objective analysis of the cause and effect of the client's present problem is the second major characteristic of the analytical _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ style.
3-9 cognitive set	3-10 The counselor statement, "Let's examine again the reason why you think you will fail." is an example of establishing a _ _ _ _ _ _ _ _ _ _ _ _ _.
3-15 expanding alternatives	3-16 The counselor statement, "I think you can achieve better if you select courses around your interest in science or if you see the relationship between other disciplines and your eventual goal." is an example of a statement of _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ and expanding alternatives.

3-4

problem solving

3-5

The two techniques for objectively analyzing the client's present problem are establishing a cognitive set and establishing _ _ _ _ _ _ _ _ _ _ _ .

< To page 33

3-10

cognitive set

3-11

Client statement, "I've done so poorly in high school that I don't know whether I'll be accepted in college." Counselor response, "You don't know whether you'll be accepted in college." is an example of _ _ _ _ _ _ _ _ _ _.

< To page 33

3-16

ability
potential

3-17

The counselor statement, "Let's talk a little about your shyness." is an example of establishing a _ _ _ _ _ _ _ _ _ _   _ _ _.

< To page 33

APPENDIX B

PROGRAM SELF-ASSESSMENT AND RELATED DATASETS

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```
C       PROGRAM SELF - ASSESSMENT
        dimension li(25),ja(25),nr(5,4),na(2,4),a(18),b(3),c(3),t(18),
       1ix(5),wt(3,4),ic(5,4),mx(5),acon(2),ac(3)
C       INITIALIZE DATA
        data b(1),b(2)/'INPU','TXX:'/
        data c(1),c(2)/'OUTP','UTX:'/
        data wt(1,1),wt(1,2),wt(1,3),wt(1,4),wt(2,1),wt(2,2),wt(2,3),wt(2,
       14),wt(3,1),wt(3,2),wt(3,3),wt(3,4)/8.,7.,6.,5.,9.,8.,7.,6.,10.,9.,
       28.,7./
        data acon(1),acon(2)/'AND','BUT'/,mx/5*0/
        data ac(1),ac(2),ac(3)/'LOW','AVE.','HIGH'/
C       PRINT HEADING & PRELIMINARY INFORMATION
        write(6,102)
        write(6,906)
        write(6,907)
        write(6,906)
    906 format(28x,39(1h*)/)
    907 format(28x,'* PROGRAM SELF-ASSESSMENT',13x,'*'/28x,'* DEVELOPED BY
       1 DR. EDWARD W. PEPYNE    *'/28x,'*',14x,'UNIVERSITY OF HARTFORD *'/
       228x,'* SUPPORTED BY USOE PROJECT #0-A-004  *'/)
      1 write(6,112)
        call detach(-1,ierr)
    112 format(//'This program administers and scores the following tests:
       1'/10x,'CT1 : Analytical Problem Solving'/10x,'CT2 : Psychology of
       2Interpersonal Behavior'/10x,'CT3 : Childhood & Society'/10x,'CT4 :
       3Science & Human Behavior'/10x,'CT5  : EDG 504 Final Exam'/1h+,'Typ
       4e the code of the test you wish to take - ')
C       IDENTIFY TEST TO BE ADMINISTERED & RELATED DATASETS
        read(5,111) b(3)
        write(6,102)
        c(3)=b(3)
    111 format (a4)
C       ATTACH AUXILIARY FILES
        call attach(b,1,0,ierr)
        call attach(c,2,1,ierr)
        call attach(0,3,1,ierr)
        call attach('GOOD:TST',4,0,ierr)
C       READ NUMBER OF LINES IN EACH ITEM FROM FILE 1
        read(1,101) (li(i),i=1,25)
C       READ NUMBER OF ENTRIES IN RECORD FILE, TITLE OF TEST &
C       CORRECT RESPONSES TO EACH ITEM FROM FILE 2
        read(2,115) n,(t(i),i=1,18),(ja(j),j=1,25)
        nN=n+1
C       CREATE NEW UPDATED FILE ON DISC
        write(3,115) nN,(t(i),i=1,18),(ja(i),i=1,25)
    100 format (114)
    101 format (25i2)
    103 format (18a4)
        if(n-1)6,5,5
C       READ RECORDS FROM OLD FILE & WRITE NEW RECORD FILE
      5 do 7 l=1,n
        read(2,110)(na(1,j),j=1,4),(na(2,j),j=1,2),s,xci,xk,
       1(mx(j),j=1,5),((nr(i,j),i=1,5),j=1,4),((ic(i,j),i=1,5),j=1,4)
```

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```
      write(3,110)(na(1,i),i=1,4),(na(2,j),j=1,2),s,xci,xk,
     1(mx(j),j=1,5),((nr(i,j),i=1,5),j=1,4),((ic(i,j),i=1,5),j=1,4)
C       INITIALIZE VALUES FOR RESPONSES & CONFIDENCE INDICES
    6 do 7 i=1,5
      do 7 j=1,4
      nr(i,j)=0
      ic(i,j)=0
    7 continue
C       IDENTIFY STUDENT
      write(6,90)
      read(5,120) (na(1,i),i=1,4)
  120 format(4a4)
      write(6,92)
   92 format(/1H+,'TYPE YOUR FIRST NAME.')
      read(5,91) (na(2,i),i=1,2)
      write(6,102)
C       PRINT TITLE
      write(6,103)(t(i),i=1,18)
C       PRINT DIRECTIONS
      write(6,900)
  900 format(//'SELECT THE BEST RESPONSE FOR EACH ITEM.WHEN I TYPE'
     1/'"YOUR RESPONSE>" TYPE IN THE NUMBER OF THE RESPONSE'/
     1'WHICH YOU HAVE SELECTED.  YOU ALSO WILL BE ASKED HOW'/
     3'CONFIDENT YOU ARE THAT YOU HAVE SELECTED THE "BEST"'/
     4'RESPONSE.  INDICATE YOUR LEVEL OF CONFIDENCE IN THE'/
     5'FOLLOWING MANNER:'/10x,'IF YOU ARE VERY CONFIDENT, TYPE...."3"/
     610x,'IF YOU ARE FAIRLY CONFIDENT, TYPE..."2"'/10x,'IF YOU ARE NOT C
     7ONFIDENT, TYPE....."1"'//)
      y=0.0
C       GENERAL STRATIFIED RANDOM SAMPLE OF ITEMS
      do 3 i=1,5
    2 x=RNGEN(-1,1)
C       IF ITEM APPEARED ON LAST TEST GET A NEW ITEM
      ix(i)=(4.9*x+1)+y
      if(ix(i).eq.mx(i))go to 2
      y=y+5.
    3 continue
C       INITIALIZE SCORE
      s=0.0
  102 format(//)
      do 18 i=1,25
C       READ REINFORCER
      read(4,103)(t(m),m=1,18)
      id=li(i)
C       READ ITEM ONE LINE AT A TIME
      do 10 j=1,id
      read (1,103) (a(m),m=1,18)
C       IF ITEM IS IN SAMPLE PRINT ITEM ONE LINE AT A TIME
      do 9 l=1,5
    9 if(i.eq.ix(l)) write(6,103) (a(m),m=1,18)
   10 continue
      do 18 l=1,5
      if(i-ix(l))18,11,18
C       DEMAND RESPONSE
```

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```
   11 write(6,104)
  104 format(/1H+,'YOUR RESPONSE ')
      ktr=1
   12 read(5,105) nr(1,ktr)
C     DEMAND LEVEL OF CONFIDENCE
      write(6,106)
  106 format(1h+,'HOW CONFIDENT ARE YOU? ')
      read(5,105) ic(1,ktr)
  105 format (1i1)
C     IF RESPONSE IS CORRECT INCREMENT SCORE & PRINT REINFORCER
      if(nr(1,ktr)-ja(i))16,15,16
   15 s=s+wt(ic(1,ktr),ktr)
      write(6,103)(t(m),m=1,18)
      write(6,102)
      go to 18
   16 xc=ic(1,ktr)
C     IF RESPONSE IS INCORRECT DECREASE SCORE & RECYCLE
      s=s-xc
      if(ktr.eq.4)go to 17
      ktr=ktr+1
      write(6,113)
  113 format('SORRY, YOU HAVE NOT SELECTED THE BEST RESPONSE.'//
     11h+,'TRY AGAIN ')
      go to 12
C     IF INCORRECT AFTER 4 TRIALS PRINT CORRECT RESPONSE
   17 write(6,114) ja(i)
  114 format('THE BEST RESPONSE TO THAT ITEM WAS ',i1,'.'//)
   18 continue
   90 format(/1H+,'TYPE YOUR LAST NAME. ')
   91 format (2a4)
      ktr=0
      mc=0
C     COMPUTE AVERAGE CONFIDENCE
      do 50 j=1,5
      do 50 k=1,4
      if(ic(j,k).eq.0)go to 50
      mc=mc+ic(j,k)
      ktr=ktr+1
   50 continue
      xc=mc
      xk=ktr
      xci=xc/xk
C     IF SCORE >0 ; SET SCORE = 0
      if(s.lt.0.)s=0.
C     WRITE RESULTS ON NEW RECORD FILE
      write(3,110)(na(1,j),j=1,4),(na(2,j),j=1,2),s,xci,xk,
     1(ix(j),j=1,5),((nr(i,j),j=1,4),i=1,5),((ic(i,j),j=1,4),i=1,5)
      l=1
      if(xci.ge.1.6)l=2
      if(xci.ge.2.4)l=3
      j=1
      if(s.ge.30.)j=2
      if(s.ge.40.)j=3
      k=1
      if(l.ne.j)k=2
```

```
C      PRINT RESULTS
       write(6,95) (na(2,i),i=1,2),s,ac(l),acon(k),ac(j)
  95 format(2a4,1x,'YOU HAVE SCORED',f4.0,' THE HIGHEST POSSIBLE SCORE
    1 WAS 50.'/'IN GENERAL, YOUR CONFIDENCE WAS',1x,a4,1x,a3,1x,'THE
    2UNDERSTANDING YOU'/'EXHIBITED WAS ',a4,'.')
C      PRINT DIAGNOSTIC MESSAGE
       if(l.gt.j)write(6,904)
       if(j.gt.l)write(6,903)
 903 format('IT APPEARS THAT YOU HAVE A BETTER UNDERSTANDING OF THIS'
    1' MATERIAL'/'THAN YOU REALIZE!')
 904 format('IT APPEARS THAT YOU ARE SOMEWHAT OVERCONFIDENT OF YOUR'
    1' KNOWLEDGE'/'IN THIS AREA.')
C      CATALOG NEW RECORD FILE
       call catalg('dummy:one',3,ierr)
C      DESTROY OLD RECORD FILE
       call destry(c,ierr)
C      RENAME NEW RECORD FILE
       call rename('dummy:one',c,ierr)
C      DETACH ALL FILES
       call detach(-1,ierr)
C      IF SCORE = 50, PRINT MEMO
       if(s.lt.50.)go to 19
       call attach('MEMO:TST',1,0,ierr)
       write(6,119)
 119 format(///////////////)
       call riter(3)
       write(6,120)(na(2,i),i=1,2),(na(1,i),i=1,4)
 120 format(/33x,'MEMO'/2x,'TO:',3x,2a4,1x,4a4)
       call riter(13)
       call detach(-1,ierr)
       write(6,102)
  19 write(6,116)
 116 format(/'Do you wish to take another test?'/'If yes, type 1;
    1if no, type 2.')
       read(5,105)i
       if(i-1)20,1,20
 115 format(I4/18a4/25I1)
 110 format(4a4,1x,2a4,4x,f5.0,4x,f4.2,4x,f3.0/5(2x,i2)/20i1/20i1)
  20 stop
       end
       subroutine riter(ll)
       dimension a(18)
       do 10 i=1,ll
       read(1,200)(a(m),m=1,18)
  10 write(6,200)(a(m),m=1,18)
 200 format(18a4)
       return
       end
>
```

```
DATASET GOOD:TST - CONTAINS REINFORCERS & ATTACHES AS FILE 4

GOOD
RIGHT
CORRECT
RIGHT ON !!
YOU'RE OFF TO A GOOD START
VERY GOOD
GOOD WORK
YOU GOT IT
RIGHT ON THE BUTTON
SO FAR...SO GOOD !
GREAT
GOOD GOOD GOOD
HOW ABOUT THAT
SOCK IT TO 'EM
THAT'S REALLY GOOD
I SEE YOU'VE DONE SOME HOMEWORK
YOU'RE GOING GREAT
GREAT GREAT GREAT
VERY I-N-T-E-R-E-S-T-I-N-G !!
RIGHT, AND THAT WAS A TOUGH ONE !
NICE GOING
OUTSTANDING
MAGNIFICENT
SUPERB
YOU REMEMBERED...VERY GOOD
>

DATASET MEMO:TST - CONTAINS MEMO & ATTACHES IF SCORE EQUALS 50

                        UNIVERSITY OF HARTFORD
                         SCHOOL OF EDUCATION
                      COUNSELOR EDUCATION FACULTY
  FROM: Dr. E.W. Pepyne

          Congratulations, my friend, you are demonstrating exceptiona
  knowledge in the area of individual counseling theory and techniques
  It is a pleasure to work with students like you, who demonstrate suc
  a high degree of commitment and competence.
          If I can assist you further in your career development do no
  hesitate to call on me.
                                            Sincerely,

                                            EDWARD W. PEPYNE
                                            Associate Professor
                                            Counselor Education

>
```

```
DATASET INPUTXX:CT4 - CONTAINS ITEM POOL & ATTACHES AS FILE 1

08090908080708080707080808080908080807080708070808
***** behavior is strongly influenced by the consequences of
previous similar responses, whereas ***** behavior depends
on a preceding stimulus.
  1.  respondent; voluntary
  2.  operant; reflex
  3.  unconditioned; conditioned
  4.  punished; unpunished
  5.  social; personal
In a conditioned reflex, when a conditioned stimulus is repeatedly
presented alone, the magnitude of the conditioned response *****
and the latency of the conditioned reflex *****, until ***** is
complete.
  1.  increases; decreases; conditioning
  2.  increases; increases; generalization
  3.  decreases; decreases; extinction
  4.  increases; increases; conditioning
  5.  decreases; increases; extinction
When a child is reinforced for appropriate social behavior, the
reinforcing stimulus occurs immediately ***** the appropriate
response, and the ***** at which this class of responses is *****
increases.
  1.  before; intensity; emitted
  2.  before; rate; elicited
  3.  after; rate; elicited
  4.  before; frequency; reinforced
  5.  after; rate; emitted
Conditioned operants are eliminated in two contrasting ways: the
response is emitted without reinforcement in the process called
*****; but is not emitted in the process called *****.
  1.  extinction; punishment
  2.  extinction; forgetting
  3.  forgetting; extinction
  4.  punishment; extinction
  5.  punishment; forgetting
Many so-called traits ascribed to individuals (aggressiveness,
persistence, friendliness, etc.) are simply alternate ways to
describe individual's ***** of emitting certain classes of behavior.
  1.  probability
  2.  frequency
  3.  likelihood
  4.  rate
  5.  all of the above
When we differentially reinforce successive approximations to a
final form of behavior we are *****.
  1.  chaining
  2.  conditioning
  3.  discriminating
  4.  shaping
  5.  negatively reinforcing
```

The pairing of two stimuli is necessary for conditioning ***** behavior whereas ***** behavior is conditioned by ***** consequences of its emission.

1. reflex; operant; gratifying
2. operant; reflex; any
3. verbal; non-verbal; immediate
4. reflex; involuntary; delayed
5. involuntary; respondent; gratifying

Two ways of effectively controlling inappropriate conditioned behavior are: to ***** it by withholding reinforcement, or to condition some ***** behavior.

1. punish; appropriate
2. extinguish; appropriate
3. extinguish; incompatible
4. ignore; other
5. punish; reflex

Availability of reinforcement depends on the passage of time in ***** schedules and on the number of responses in ***** schedules.

1. continuous; intermittent
2. interval; ratio
3. ratio; interval
4. intermittent; continuous
5. simple; complex

Each stimulus in a chain has the dual function of ***** the response it follows and being a(n) ***** for the response it precedes.

1. reinforcing; discriminative stimulus
2. conditioning; extinguisher
3. reinforcing; negative reinforcer
4. extinguishing; positive reinforcer
5. extinguishing; discriminative stimulus

In operant discrimination we speak of a three term contingency. Events are arranged in this order: present the *****, wait for the ***** and *****.

1. response; stimulus; reinforce
2. reinforcer; response; stimulate
3. reinforcer; stimulus; respond
4. stimulus; response; discriminate
5. stimulus; response; reinforce

Response magnitude varies closely with stimulus intensity in the case of ***** behavior, but much less so in the case of ***** behavior.

1. reinforced; punished
2. reflex; operant
3. operant; reflex
4. voluntary; involuntary
5. operant; voluntary

The operant called "buying candy from a vending machine" is composed of many stages or parts integrated as a ***** of stimuli and responses.

1. shaping
2. reflex
3. discrimination
4. chain
5. schedule

An organism may emit the same responses to two fairly similar stimuli when only one of them has been presented during reinforcement. The term for this phenomenon is *****.

1. generalization
2. discrimination
3. abstraction
4. stimulus confusion
5. response confusion

In teaching a child to copy a letter of the alphabet we do not wait for a perfect letter. We ***** movements which produce lines fairly similar to the letter but ***** movements which produce lines very different from the letter being copied.

1. reward; punish
2. positively reinforce; negatively reinforce
3. ignore; punish
4. reinforce; punish
5. reinforce; do not reinforce

A pigeon reinforced with food for pecking a key while a green light is lit but not reinforced while a red light is on will peck a second key which delays the appearance of *****.

1. the green light
2. the red light
3. food
4. both lights
5. conflicting stimuli

Punishment does not ***** a response. Rate of respond~~ing~~ temporarily *****, in part, because punishment and the resulting conditioned aversive stimuli generate *****.

1. condition; increases; fear
2. extinguish; increases; anxiety
3. condition; decreases; anxiety
4. extinguish; decreases; anxiety
5. extinguish; increases; rewards

Operant behavior which postpones an unconditioned aversive stimulus is called ***** behavior. Behavior which terminates an unconditioned aversive stimulus is called *****.

1. avoidance; escape
2. escape; avoidance
3. adaptive; maladaptive
4. escape; negatively reinforced
5. avoidance; punished

A given emotion is ***** by the ***** which serve as reinforcers and by the increased probability of a group of *****.

1. defined; responses; feelings
2. elicited; stimuli; responses
3. identified; consequences; stimuli
4. elicited; feelings; reflexes
5. defined; stimuli; responses

The teacher who uses strong aversive control to get students to study may ***** the probability that they will study after graduation.

1. increase
2. ignore
3. decrease
4. maximize
5. not affect

```
In a functional relationship there is an observed systematic
relationship between *****.
  1.  an independent variable and a dependent variable
  2.  two independent variables
  3.  two dependent variables
  4.  any two variables
  5.  a variable and a constant
In counseling, a client sometimes manifests strong love or hate
toward his counselor.  This phenomenon is called ***** and can be
interpreted as an example of *****.
  1.  reaction-formation; counter conditioning
  2.  displacement; abstraction
  3.  transference; stimulus generalization
  4.  projection; satiation
  5.  regression; avoidance behavior
The goal of a science of behavior is to be able to *****, *****
and ***** the behavior of living organisms.
  1.  condition; extinguish; maintain
  2.  control; predict; interpret
  3.  punish; reward; facilitate
  4.  measure; analyze; explain
  5.  explain; catalog; document
A counselor frequently tries to change a client's behavior by
acting as a(n) ***** and thereby the aversive properties generated
by previously punished responses become *****.
  1.  judge; analyzed
  2.  expert; interpreted
  3.  non-judgemental audience; extinguished
  4.  discrimative stimulus; conditioned
  5.  teacher; shaped
Inadequate self knowledge may result because we have not yet been
***** to notice some aspect of our behavior or because we engage
in behavior which is ***** noticing this behavior.
  1.  conditioned; incompatible with
  2.  told:; extinguished by
  3.  made anxious; punished by
  4.  reinforced; conditioned by
  5.  punished; reinforced for
>
```

```
DATASET OUTPUTX:CT4 - CONTAINS CURRENT OUTPUT FROM TEST CT4 &
                      ATTACHES AS FILE 2

   2
SCIENCE AND HUMAN BEHAVIOR
25525413215241524153l3231
Berman           Maureen       38.    1.67     6.
   5   6  14  18  23
5000400010001000420O
20001000200010003100
MORRIS           CHARLES       20.    3.00    10.
   3   9  11  17  21
50001453450034001000
30003333330033003000
>


DATASET OUTPUTX:CT1 - CONTAINS CURRENT OUTPUT FROM TEST CT1 &
                      ATTACHES AS FILE 2

  25
ANALYTICAL PROBLEM SOLVING STYLE OF COUNSELING
41343251431335231432413 44
Smith            Chester       48.    2.67     6.
   5   6  14  18  23
30002000500014003000
30003000300013003000
GARTLAND         HOWARD        19.    2.50    14.
   2   7  12  17  25
10003415451354314000
30003223223332232000
Curry            Lawrence       0.    1.17    18.
   3   9  13  19  23
54121253421521305241
20221111111111101111
MADAUS           WILLIAM       50.    3.00     5.
   2   8  15  18  22
10001000200040001000
30003000300030003000
WILSON           HENRY         50.    3.00     5.
   4   7  11  17  24
40005000100010004000
30003000300030003000
Hoffman          Sylvia        34.    2.78     9.
   2   6  15  19  21
10002000200043002134
30003000300032003233
Hoffman          Sylvia        44.    2.67     6.
   4   9  11  16  23
40004000100030002300
30003000300020003200
```

APPENDIX C

PROGRAM COUNSELING EXERCISES AND RELATED DATASETS

```
C     PROGRAM COUNSELING EXERCISES
      common nrc(20,2),ktr(3),a(70),p(11),w(2,50,5),wkw(30,5),ms(16,5)
      dimension f1(3),f2(3),f3(3),f4(3),n1(2),n2(3)
C     SET ALPHABETIC VARIABLES TO 2 BYTE LENGTH
      integer*2 a, p*2, w*2, wkw*2, ms*2
C     INITIALIZE DATA
      data f1(1)/'EXER'/,f1(2)/'CIS:'/,f2(1)/'RESP'/,f2(2)/'TWO:'/,f3(1)
     1/'RESP'/,f3(2)/'TRE:'/,f4(1)/'KEYW'/,f4(2)/'ORD:'/,C1/'CE1'/,C2/'C
     2E2'/,C3/'CE3'/,C4/'CE4'/,ns/1/,nq/1/,nc/1/
C     DETACH ALL FILES - PRECAUTIONARY MEASURE
      call detach(-1,ierr)
  104 format(2x,'THIS PROGRAM PROVIDES PRACTICE EXERCISES FOR A VARIETY
     1OF COUNSELING'/2x,'STYLES.   THE FOLLOWING EXERCISES ARE CURRENTLY
     2 AVAILABLE:'//10x,'CODE',12x,'STYLE'//10x,'CE1',4x,'ANALYTICAL PRO
     3BLEM SOLVING - MALE CLIENT'/10x,'CE2',4x,'ANALYTICAL PROBLEM SOLVI
     4NG - FEMALE CLIENT'//1h+,1x,'TYPE THE CODE OF THE EXERCISE YOU WIS
     5H TO TAKE: ')
C     WRITE HEADINGS
      write(6,98)
      write(6,99)
      write(6,101)
      write(6,99)
      write(6,98)
      write(6,104)
C     READ CODE OF EXERCISE TO BE USED
      read(5,103)f1(3)
C     READ NAME OF TRAINEE
      write(6,105)
      read(5,103)(n1(i),i=1,2)
  105 format(/1h+,'TYPE YOUR FIRST NAME: ')
      write(6,106)
  106 format(/1h+,'TYPE YOUR LAST NAME: ')
      read(5,103)(n2(i),i=1,3)
      write(6,98)
  101 format(28x,'* PROGRAM COUNSELING EXERCISES',8x,'*'/28x,'* DEVELOPE
     1D BY DR. EDWARD W. PEPYNE   *'/28x,'*',14x,'UNIVERSITY OF HARTFORD
     2 *'/28x,'* SUPPORTED BY USOE PROJECT #0-A-004  *'/)
   99 format(28x,39(1h*)/)
   98 format(//)
C     CONVERT EXERCISE CODE TO UPPER CASE
      call upcase(f1(3),4)
  103 format(3a4)
C     NAME DATASETS TO BE ATTACHED
      f2(3)=f1(3)
      f3(3)=f1(3)
      f4(3)=f1(3)
C     ATTACH AUXILIARY FILES
      call attach(f1,1,0,ierr)
      call attach(f2,2,0,ierr)
      call attach(f3,3,0,ierr)
      call attach(f4,4,0,ierr)
      read(4,100) nkw
  100 format(i3)
C     READ KEYWORDS FROM FILE 4
      do 1 i=1,nkw
    1 read(4,102)(wkw(i,j),j=1,5)
C     READ PUNCTUATION DELIMITERS & MINIMUM STIMULI FROM FILE 1
      read(1,102)(p(i),i=1,11)
      do 2 i=1,16
    2 read(1,102)(ms(i,j),j=1,5)
      read(1,100)l
C      READ & WRITE DIRECTIONS
      do 3 i=1,l
      read(1,102)(a(j),j=1,70)
      write(6,102)(a(j),j=1,70)
    3 continue
  102 format(70a1)
C     INITIALIZE WORD COUNTERS
    4 do 5 i=1,3
      ktr(i)=0
    5 continue
C     DETERMINE INPUT FILE
    6 if(ns.eq.2)nfile=5
    7 if(ns.eq.1)call cres(nq,nfile)
C     READ CODE OF REQUIRED RESPONSE CLASS
      if(ns.eq.1)read(nfile,100)(nrc(nc,1))
C     READ RESPONSE & IF CLIENT WRITE
    8 read(nfile,102)(a(i),i=1,70)
      if(ns.eq.1)write(6,102)(a(i),i=1,70)
      l=1
C     BUILD WORD LISTS
      do 11 i=1,70
      do 10 j=1,10
      if(a(i).ne.p(j))go to 10
      call word(a,l,p,w,i,ktr,ns,&11,&12,&13)
   10 continue
   11 continue
      go to 8
C     ANALYZE TRAINEE RESPONSES & ALLOW FOR ADDITION OF STYLES
   12 if(f1(3).eq.C1)call anal1(ktr,w,wkw,nq,nrc,ms,nc)
      if(f1(3).eq.C2)call anal1(ktr,w,wkw,nq,nrc,ms,nc)
      if(f1(3).eq.C3)call anal3(ktr,w,wkw,nq,nrc,ms,nc)
      if(f1(3).eq.C4)call anal4(ktr,w,wkw,nq,nrc,ms,nc)
C     SHIFT TO CLIENT INPUT
      nc=nc+1
      ns=1
      go to 4
C     CHECK FOR TERMINATION
   13 if(a(i+1).eq.p(11))go to 14
C     SHIFT TO TRAINEE INPUT
      ns=2
      go to 6
   14 call matrx(nrc,nc,n1,n2,f1)
C     DETACH ALL FILES
      call detach(-1,ierr)
      stop
      end
C     SELECT CLIENT INPUT FILE CONTINGENT ON "NQ"
      subroutine cres(nq,nfile)
      common nrc(20,2),ktr(3),a(70),p(11),w(2,50,5),wkw(30,5),ms(16,5)
      integer*2 a, p*2, w*2, wkw*2, ms*2
      if(nq-2)5,10,15
    5 nfile=1
      return
   10 nfile=2
      return
   15 nfile=3
      return
      end
C     BUILD WORD LISTS
      subroutine word(a,l,p,w,i,ktr,ns,*,*,*)
      common nrc(20,2),ktr(3),a(70),p(11),w(2,50,5),wkw(30,5),ms(16,5)
      integer*2 a, p*2, w*2, wkw*2, ms*2
      do 5 k=1,10
      if(a(l).eq.p(k))go to 20
    5 continue
C     COUNT WORDS
      ktr(ns)=ktr(ns)+1
      m=0
      do 10 k=l,i-1
      m=m+1
C     CONVERT LETTERS TO UPPER CASE
      call upcase(a(k),2)
C     BUILD 5 LETTER WORDS
      w(ns,ktr(ns),m)=a(k)
      if(m.eq.5)go to 20

   10 continue
C     FILL OUT SHORT WORDS WITH BLANKS
      do 15 k=m+1,5
      w(ns,ktr(ns),k)=p(1)
   15 continue
C     CHECK FOR END CODES (IE. * OR ¬)
   20 if(a(i).eq.p(9))return 2
      if(a(i).eq.p(10))return 3
      l=i+1
      return 1
      end
C     ANALYZE TRAINEE RESPONSES
      subroutine anal(ktr,w,wkw,nq,nrc,ms,nc)
      common nrc(20,2),ktr(3),a(70),p(11),w(2,50,5),wkw(30,5),ms(16,5)
      integer*2 a, p*2, w*2, wkw*2, ms*2
      entry anall(ktr,w,wkw,nq,nrc,ms,nc)
      nrc(nc,2)=8
C     CHECK FOR QUESTION
      do 2 n=14,23
      do 1 k=1,5
      if(w(2,1,k).ne.wkw(n,k))go to 2
    1 continue
      nq=3
      return
    2 continue
C     CHECK FOR SIMILARITIES IN TRAINEE & CLIENT WORD LISTS
      do 5 m=1,ktr(2)
      do 5 n=1,ktr(1)
      do 4 k=1,5
      if(w(2,m,k).ne.w(1,n,k))go to 5
    4 continue
      ktr(3)=ktr(3)+1
    5 continue
      nrc(nc,2)=8
C     CHECK FOR CRITICAL RESPONSE CLASSES
      nt=0
      do 12 m=1,5
      ni=nt+1
      nt=ni+2
      do 11 mm=1,ktr(2)
      do 10 n=ni,nt
      do 7 k=1,5
      if(w(2,mm,k).ne.wkw(n,k))go to 10
    7 continue
      if(m.ne.2)go to 8
      if(ktr(3).lt.4)go to 12
    8 nrc(nc,2)=m
      if(nrc(nc,2)-nrc(nc,1))12,9,12
    9 nq=1
      return
   10 continue
   11 continue
   12 continue
C     CHECK FOR MINIMAL SOCIAL STIMULUS
      do 15 n=1,16
      do 13 k=1,5
      if(w(2,1,k).ne.ms(n,k))go to 15
   13 continue
      nrc(nc,2)=6
      nq=2
      return
   15 continue
C     CHECK FOR RESTATEMENT
      if((ktr(3)/ktr(1))-0.50)17,16,16
   16 nrc(nc,2)=7
      nq=2
      return
   17 nq=3
      return
C     OPTIONS TO EXPAND EXERCISES
      entry anal2(ktr,w,wkw,nq,nrc,ms,nc)
      entry anal3(ktr,w,wkw,nq,nrc,ms,nc)
      entry anal4(ktr,w,wkw,nq,nrc,ms,nc)
      return
      end
C     PRODUCE DIAGNOSTIC ANALYSIS
      subroutine matrx(nrc,nc,n1,n2,f1)
      common nrc(20,2),ktr(3),a(70),p(11),w(2,50,5),wkw(30,5),ms(16,5)
      dimension n1(2),n2(3),f1(3),mat(8,8),itot(8),ictot(8)
      integer*2 a, p*2, w*2, wkw*2, ms*2
      data mat/64*0/,itot/8*0/,ictot/8*0/,nsum/0/,jtot/0/
C     ASSIGN MATRIX VALUES
      do 10 i=1,nc-1
      mat(nrc(i,1),nrc(i,2))=mat(nrc(i,1),nrc(i,2))+1
   10 continue
C     COMPUTE SUM OF DIAGONAL
      do 15 i=1,8
      nsum=nsum+mat(i,i)
C     COMPUTE ROW & COLUMN TOTALS
      do 15 j=1,8
      itot(i)=itot(i)+mat(i,j)
      ictot(j)=ictot(j)+mat(i,j)
   15 continue
C     COMPUTE GRAND TOTAL
      do 17 i=1,8
      jtot=jtot+itot(i)
   17 continue
C     COMPUTE PERCENT ACCURACY
      iper=(nsum*100)/jtot
C     PRINT MATRIX & SUMMARY
      write(6,100)
      write(6,99)(n1(i),i=1,2),(n2(j),j=1,3),(f1(3))
      write(6,101)
      write(6,102)
      write(6,103)
      write(6,104)
      write(6,105)((i),i=1,8)
      write(6,106)
      write(6,107)
      write(6,101)
      do 20 i=1,8
      write(6,108)i,(mat(i,j),j=1,8),itot(i)
   20 continue
      write(6,101)
      write(6,109)(ictot(j),j=1,8),jtot
      write(6,101)
      write(6,110)jtot,nsum,iper
      write(6,111)
      write(6,112)
      return
   99 format(10x,'NAME: ',2a4,1x,3a4,10x,'EXERCISE: ',a4/)
  100 format(//24x,'DIAGNOSTIC ANALYSIS'//)
  101 format(67(1h*)/)
  102 format('*  RESPONSE *',9(5x,'*'))
  103 format(2x,'* EMITTED *',9(5x,'*'))
  104 format(4x,'*',7x,'*',9(5x,'*'))
  105 format(6x,'*',5x,'*',8(i3,2x,'*'),'TOTAL*')
  106 format('RESPONSE*',3x,'*',9(5x,'*'))
  107 format('REQUIRED  * *',9(5x,'*'))
  108 format(4x,i3,5x,'*',9(i3,2x,'*')/)
  109 format(6x,'TOTAL *',9(i3,2x,'*')/)
  110 format(1x,'NUMBER OF RESPONSES: ',i3,3x,'NUMBER ACCURATE: ',i3,3x,
     1'PERCENT: ',i3,'%'/)
  111 format(1x,'ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE
     1WAS NEEDED.'/1x,'DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RE
     2SPONSE CLASS WAS'/1x,'EMITTED WHEN REQUIRED.  PROPORTION OF ACCURA
     3CY  FOR EACH RESPONSE'/1x,'CLASS IS OBTAINED BY COMPARING THE APPR
     4OPRIATE DIAGONAL CELL WITH'/1x,'THE CORRESPONDING ROW TOTAL.')
  112 format(/1x,'KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST.
     1 CONNECTIONS'/ 6x,'5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTA
     2TEMENT 8/OTHER')
      end
>
DATASET KEYWORD:CE1 - CONTAINS KEYWORDS & ATTACHES AS FILE 4

>023
NOW
STILL
PRESENT
YOU
YOU'RE
YOU'VE
EXAMINE
CHECK
REASON
BECAUSE
SINCE
ALTHOUGH
MIGHT
COULD
CAN
WHO
WHERE
WHEN
WHY
WHAT
HOW
ARE
DO
>
```

```
DATASET EXERCIS:CE1 - BASIC FILE FOR ANALYTICAL PROBLEM SOLVING
                      MALE CLIENT - ATTACHES AS FILE 1

 .?!,;:"*¬#
MM-HM
MM
HM
OH
UH-HUH
YES
SURE
GOOD
RIGHT
AH
AHA
GEE
O.K.
OK
WELL
HEY
018
     IN THIS EXERCISE YOU WILL HAVE A SHORT  COUNSELING SESSION WITH A
CLIENT.  YOU WILL COMMUNICATE WITH YOUR CLIENT USING THIS TYPEWRITER.
HE WILL TYPE IN HIS RESPONSE.  WHEN IT'S YOUR TURN TO RESPOND HE WILL
TYPE A CARAT (>).  THEN YOU TYPE IN YOUR RESPONSE.  TYPE NO MORE THAN
70 SPACES PER LINE.  YOU MAY TYPE IN AS MANY LINES AS YOU WISH. AFTER
THE LAST WORD OF YOUR RESPONSE, TYPE AN ASTERISK (*) AND THEN DEPRESS
THE CARRIAGE RETURN BUTTON.  THE CLIENT WILL TERMINATE THE SESSION IN
A POSITIVE, NEGATIVE OR NEUTRAL FASHION DEPENDING ON YOUR THERAPEUTIC
SKILL IN HELPING HIM.

     THE CLIENT YOU ARE ABOUT TO INTERVIEW IS A 19 YEAR OLD WHITE MALE
STUDENT AT A COMMUNITY COLLEGE.  HE COMMUTES FROM HOME WHERE HE LIVES
WITH HIS PARENTS AND AN OLDER BROTHER.  HE HAS A SLIGHT BUILD, AND HE
LOOKS SOMEWHAT YOUNGER THAN HIS AGE. HE APPEARS VERY TENSE AND TIRED.
YOUR OBJECTIVE  IS TO HELP THIS CLIENT TO RATIONALLY IDENTIFY AND EX-
PLORE THE ALTERNATIVES  HE MIGHT PURSUE  TO COPE MORE ADEQUATELY WITH
HIS PRESENT PROBLEM. ASSUME THAT PRELIMINARY RESPONSES ARE COMPLETED.

001
I've always had trouble at home¬
002
My brother and I used to fight all the time, but now I try to ignore
him¬
003
Yeh, I really hate my brother's guts¬
004
He's a bully; he picks on me; takes my things. It's just hell when
he's at home¬
005
Yeh, my brother makes life miserable. I can't take it, but I don't
know what to do¬
006
You know, we've just talked for a little while, but I feel better¬#
>
```

```
DATASET RESPTWO:CE1 - CONTAINS NEUTRAL RESPONSES OF MALE CLIENT
                      & ATTACHES AS FILE 2

003
Yeh, I guess it's tough all over these days¬
001
It didn't used to be that way¬
003
I feel awful, all mixed up¬
003
I don't think you or anyone can help me¬
006
I'm sorry for bothering you. I'll come back when I can talk clearer¬#
>

DATASET RESPTRE:CE1 - CONTAINS HOSTILE RESPONSES OF MALE CLIENT
                      & ATTACHES AS FILE 3

003
I'm having trouble talking to you¬
003
I don't feel that you're listening to me¬
003
You're just like my father; he always takes my brother's side¬
006
I quit, you just don't understand¬#
>
```

```
DATASET EXERCIS:CE2 - BASIC FILE FOR ANALYTICAL PROBLEM SOLVING
                      FEMALE CLIENT - ATTACHES AS FILE 1

 .?!,;:"*¬#
MM-HM
MM
HM
OH
UH-HUH
YES
SURE
GOOD
RIGHT
AH
AHA
GEE
O.K.
OK
WELL
HEY
019
    IN THIS EXERCISE YOU WILL HAVE A SHORT  COUNSELING SESSION WITH A
CLIENT.  YOU WILL COMMUNICATE WITH YOUR CLIENT USING THIS TYPEWRITER.
HE WILL TYPE IN HIS RESPONSE.  WHEN IT'S YOUR TURN TO RESPOND HE WILL
TYPE A CARAT (>).  THEN YOU TYPE IN YOUR RESPONSE.  TYPE NO MORE THAN
70 SPACES PER LINE.  YOU MAY TYPE IN AS MANY LINES AS YOU WISH. AFTER
THE LAST WORD OF YOUR RESPONSE, TYPE AN ASTERISK (*) AND THEN DEPRESS
THE CARRIAGE RETURN BUTTON.  THE CLIENT WILL TERMINATE THE SESSION IN
A POSITIVE, NEGATIVE OR NEUTRAL FASHION DEPENDING ON YOUR THERAPEUTIC
SKILL IN HELPING HIM.

    THE CLIENT YOU ARE ABOUT TO INTERVIEW IS A 19 YEAR OLD BLACK GIRL
WHO HAS BEEN IN AN AUTOMOBILE ACCIDENT.  SHE IS ATTRACTIVE EXCEPT FOR
SCARS ON HER FACE AND HAIR SHAVED FROM THE SIDE OF HER HEAD. IT SEEMS
THESE IMPAIRMENTS CAN BE EXPECTED TO HEAL COMPLETELY GIVEN TIME.  SHE
IS WELL GROOMED BUT APPEARS VERY DEPRESSED AND BITTER. YOUR OBJECTIVE
IS TO HELP THIS CLIENT DISCUSS HER PROBLEM RATIONALLY AND TO IDENTIFY
AND EXPLORE ALTERNATIVES AVAILABLE FOR HER AT THIS TIME.  ASSUME THAT
PRELIMINARY RESPONSES HAVE BEEN COMPLETED.

001
I used to feel so confident about life¬
002
I used to feel confident but now everything seems so hopeless to me¬
003
I'm just completely discouraged¬
004
Before the accident I was attractive, good to look at, but now I'm a
scarfaced baldy. No one wants to look at me muchless hire me¬
005
I really wish I had something to look forward to - a job, friends,
something; but I can't see how I can make anything of myself¬
006
Maybe i've been looking at it wrong; maybe I can lick this problem¬#
>
```

```
DATASET RESPTWO:CE2 - CONTAINS NEUTRAL RESPONSES OF FEMALE CLIENT
                      & ATTACHES AS FILE 2

002
Once everything was pretty good, but now it's all a bad joke¬
003
I haven't got a chance¬
004
You aren't trying to help me. See, my appearance turns you off just
like everyone else¬
006
I've got to have time to think. Maybe I could come back tomorrow,OK¬#
>

DATASET RESPTRE:CE2 - CONTAINS HOSTILE RESPONSES OF FEMALE CLIENT
                      & ATTACHES AS FILE 3

003
You're not listening to me¬
003
You just don't understand what I'm telling you¬
006
Let's just forget it. It's no use, there's no hope at all¬#
>

DATASET KEYWORD:CE2 - CONTAINS KEYWORDS & ATTACHES AS FILE 4

023
NOW
STILL
PRESENT
YOU
YOU'RE
YOU'VE
EXAMINE
CHECK
REASON
BECAUSE
SINCE
ALTHOUGH
MIGHT
COULD
CAN
WHO
WHERE
WHEN
WHY
WHAT
HOW
ARE
DO
>
```

APPENDIX D

PROGRAM INTERVIEW ANALYSIS

```
C       PROGRAM INTERVIEW ANALYSIS
        dimension nrc(100,2),itot(8),ictot(8),mat(8,8),n1(2),n2(3)
C       INITIALIZE DATA
        data itot/8*0/,ictot/8*0/,mat/64*0/,nsum/0/,jtot/0/,nc/1/
C       SET NRC TO 2 BYTE VARIABLE
        integer*2 nrc
C       PRINT HEADING
        write(6,98)
        write(6,118)
        write(6,119)
        write(6,118)
    118 format(28x,39(1h*)/)
    119 format(28x,'* PROGRAM INTERVIEW ANALYSIS',10x,'*'/28x,'* DEVELOPE
       1 BY DR. EDWARD W. PEPYNE   *'/28x,'*',14x,'UNIVERSITY OF HARTFORD
       2*'/28x,'* SUPPORTED BY USOE PROJECT #0-A-004  *'/)
C       PRINT INTRODUCTION
        write(6,98)
        write(6,120)
C       IDENTIFY EXERCISE CODE
        read(5,117)code
    120 format(5x,'THIS PROGRAM ANALYZES A VARIETY OF COUNSELING EXERCISE
       1:'/16x,'CODE',11x,'STYLE'/16x,'VE1',4x,'ANALYTIC PROBLEM SOLVING'
       21h+,5x,'TYPE THE CODE OF THE STYLE TO BE ANALYZED: ')
    117 format(3a4)
        write(6,98)
C       IDENTIFY TRAINEE
        write(6,115)
        read(5,117)(n1(i),i=1,2)
    115 format(/1h+,'TYPE FIRST NAME OF TRAINEE: ')
        write(6,116)
        read(5,117)(n2(i),i=1,3)
    116 format(/1h+,'TYPE LAST NAME OF TRAINEE: ')
        write(6,98)
C       PRINT DIRECTIONS
        write(6,121)
    121 format('ENTER THE CLASS NUMBERS OF THE RESPONSE REQUIRED AND THE
       1ESPONSE'/'EMITTED (EG. 2/4).  ENTER ONE PAIR PER LINE.  AFTER ALL
       2PAIRS HAVE'/'BEEN ENTERED TYPE "9/9".')
C       READ DATA
      1 read(5,113)(nrc(nc,1)),(nrc(nc,2))
    113 format(i1,1x,i1)
C       CHECK FOR END OF DATA
        if(nrc(nc,1).eq.9)go to 2
        nc=nc+1
C       RECYCLE
        go to 1
C       ASSIGN MATRIX VALUES
      2 do 10 i=1,nc
        mat(nrc(i,1),nrc(i,2))=mat(nrc(i,1),nrc(i,2))+1
     10 continue
C       COMPUTE SUM OF DIAGONAL
        do 15 i=1,8
      nsum=nsum+mat(i,i)
C     COMPUTE ROW & COLUMN TOTALS
      do 15 j=1,8
      itot(i)=itot(i)+mat(i,j)
      ictot(j)=ictot(j)+mat(i,j)
   15 continue
C     COMPUTE GRAND TOTAL
      do 17 i=1,8
      jtot=jtot+itot(i)
   17 continue
C     COMPUTE PERCENT OF ACCURACY
      iper=(nsum*100)/jtot
C     PRINT MATRIX & SUMMARY
      write(6,98)
      write(6,100)
      write(6,99)(n1(i),i=1,2),(n2(j),j=1,3),(code)
      write(6,101)
      write(6,102)
      write(6,103)
      write(6,104)
      write(6,105)((i),i=1,8)
      write(6,106)
      write(6,107)
      write(6,101)
      do 20 i=1,8
      write(6,108)i,(mat(i,j),j=1,8),itot(i)
   20 continue
      write(6,101)
      write(6,109)(ictot(j),j=1,8),jtot
      write(6,101)
      write(6,110)jtot,nsum,iper
      write(6,111)
      write(6,112)
   98 format(//)
   99 format(10x,'NAME: ',2a4,1x,3a4,10x,'STYLE: ',a4/)
  100 format(//24x,'DIAGNOSTIC ANALYSIS'//)
  101 format(67(1h*)/)
  102 format('*  RESPONSE *',9(5x,'*'))
  103 format(2x,'* EMITTED *',9(5x,'*'))
  104 format(4x,'*',7x,'*',9(5x,'*'))
  105 format(6x,'*',5x,'*',8(i3,2x,'*'),'TOTAL*')
  106 format('RESPONSE*',3x,'*',9(5x,'*'))
  107 format('REQUIRED  * *',9(5x,'*'))
  108 format(4x,i3,5x,'*',9(i3,2x,'*')/)
  109 format(6x,'TOTAL *',9(i3,2x,'*')/)
  110 format(5x,'NUMBER OF RESPONSES: ',i3,3x,'NUMBER ACCURATE: ',i3,3x,
     1'PERCENT: ',i3,'%'/)
  111 format(1x,'ROW TOTALS  INDICATE THE NUMBER OF TIMES EACH RESPONSE
     1WAS NEEDED.'/1x,'DIAGONAL CELLS  INDICATE THE NUMBER OF TIMES A RE
     2SPONSE CLASS WAS'/1x,'EMITTED WHEN REQUIRED.  PROPORTION OF ACCURA
     3CY  FOR EACH RESPONSE'/1x,'CLASS IS OBTAINED BY COMPARING THE APPR
     4OPRIATE DIAGONAL CELL WITH'/1x,'THE CORRESPONDING ROW TOTAL.')
  112 format(/1x,'KEY: 1/REFOCUS  2/ACCENT  3/EST. COGNITIVE SET  4/EST.
     1 CONNECTIONS'/ 6x,'5/EXPAND ALTERNATIVES 6/MIN. SOC. STIM. 7/RESTA
     2TEMENT 8/OTHER')
      stop
      end
>
```

APPENDIX E

PROGRAM INTERVIEW CONTENT ANALYSIS

```
PROGRAM INTERVIEW CONTENT ANALYSIS - BAL VERSION

DOCTOR   START 0
         SAVE  (14,12),,*
         BALR  12,0
         USING *,12
STARTER  ST    13,SAVEAREA+4
         LR    11,13
         LA    13,SAVEAREA
         ST    13,8(11)
         PUT   PO,DSNMESSS,20
         GET   PI,OPEN+6,20
OPEN     OPEN  FI,A,ERROR=NOFILE
         PUT   PO,TITLEMSG,21
         GET   PI,L1+12,20       RECEIVE TITLE NAME
         PUT   PO,NAMEMESS,31
         GET   PI,NAME1,15       1ST KEY-WORD
         OC    NAME1(15),OR
         LA    1,0
         TRT   NAME1(15),TABBD
         S     1,=A(NAME1)
         BCTR  1,0
         STH   1,NAM1LN          LEN OF KW1-1
         GET   PI,NAME2,15
         OC    NAME2(15),OR
         TRT   NAME2(15),TABBD
         S     1,=A(NAME2)
         BCTR  1,0
         STH   1,NAM2LN          LEN OF KW2-1
RETRY    PUT    PO,CATNAME,L'CATNAME
         GET   PI,OP+6,12
OP       OPEN  GG,X,ERROR=SETUPCAT
         PUT   PO,THEREMSG,L'THEREMSG
         GET   PI,ANS,3
         CLC   ANS(3),=C'YES'
         BNE   RETRY
         MVC   DESTROY+2(12),OP+6
DESTROY  DESTROY X
SETUPCAT MVC   CAT+4(12),OP+6
         ATTACH GG,TYPE=DISK
         L     3,FILE1
         MVI   0(3),X'E0'        INITIZE FILE1
         L     3,FILE2
         MVI   0(3),X'E0'        INITIZE FILE2
         OC    NAME1(15),LINE
         OC    NAME2(15),LINE
GETALINE MVI   NOPLAST+1,X'00' RESET EOL
         MVC   LINE(130),LINE-1
*
         GET   FI,LINE,130
         CLC   LINE(4),=C'END/'
         BE    EOF
         CLC   LINE(4),=X'85958461'
         BE     EOF
         LA     1,LINE
CLI      CLI    0(1),X'00'
         BE     C
         LA     1,1(1)
         B      CLI
C        C      1,=A(LINE)
         BE     EOF
         S      1,=A(LINE)
         STH    1,LCNT             LEN OF LINE
         OC     LINE(130),OR        RAISE TO ALL CAPITALS
*
*
         LA     5,LINE             R5 POINTS TO BEGINNING
         ST     5,ONE
*
         L      5,ONE
         LA     4,0
         LH     4,LCNT
         LA     1,LINE+140
         ST     1,LINEND
SCAN     L      1,LINEND
CLI40    CR     5,1
         BH     GETALINE
         CLI    0(5),X'40'
         BNE    GOSCANGO
         LA     5,1(5)
         B      CLI40
*
*    START THE SCAN
*
GOSCANGO SR     1,5                R1 AMOUNT OF LINE LEFT TO SCAN
         STC    1,*+5
         TRT    0(0,5),TABBD       SCAN FOR A BLANK OR DOT OR! OR ?
         BC     8,EOL             END OF LINE
         BC     2,EOL              TERMINAL BLANK OR DOT
         ST     1,ONE
*
WWGO     EQU    *
         STC    2,TESTBYT          WHAT WAS IT?
         CLI    TESTBYT,C'.'
         BE     ISITOK
         CLI    TESTBYT,C'!'
         BE     ISITOK
         CLI    TESTBYT,C'?'
         BNE    WWLA
ISITOK   CLC    1(2,1),=X'4040'
         BNE    WWLA
         LA     7,2(1)
         ST     7,ONE
         CLI    NOPN1+1,X'F0'  WORKING ON KW1
         BNE    UPN2
         AP     TS1(2),WON(2)  SENTENCE COUNTER
         B      WWLA
UPN2     AP     TS2(2),WON(2)  SENTENCE COUNTER
WWLA     BCTR   1,0            BACKSPACE TO LAST ALPHA
WORKING  NOP    TRT
         CLI    0(1),C')'
         BNE    TRT
         LA     7,20
         LR     8,1
FNDCLI   CLI    0(8),C'('
         BE     FNDIT
         BCTR   8,0
         BCT    7,FNDCLI
         BCTR   1,0
         B      TRT
FNDIT    BCTR   8,0
         LR     1,8
         ST     8,ONE
         MVI    WORKING+1,X'F0'
         B      SR
TRT      MVI    WORKING+1,X'00'
         TRT    0(1,1),ABCTAB  FIND LAST ALPHA
         BZ     WWLA
SR       SR     1,5            R1 LEN OF WORD-1
         LA     7,0
         STC    1,*+5
         CLC    0(0,5),NAME1   IS IT KW1?
         BE     NOPNAM1
         STC    1,*+5
         CLC    0(0,5),NAME2   IS IT KW2
         BE     NOPNAM2
         B      NOPN1
NOPNAM1  LH     7,NAM1LN
         LA     8,1(7,5)
         CLI    0(8),C':'
         BNE    NOPN1
         MVI    NOPN2+1,X'00'   WIPE-OUT OLD NOP
         MVI    NOPN1+1,X'F0'   SET NEW NOP
         AP     TK1(2),WON(2)  KW COUNTER
         B      SCANBAK
NOPNAM2  LH     7,NAM2LN
         LA     8,1(7,5)
         CLI    0(8),C':'
         BNE    NOPN1
         MVI    NOPN1+1,X'00'    OLD NOP
         MVI    NOPN2+1,X'F0'    NEW NOP
         AP     TK2(2),WON(2)  KW COUNTER
         B      SCANBAK
NOPN1    NOP    F1
NOPN2    NOP    F2
F1       L      6,FILE1        R6 BEGINNING OF FILE
         B      OVRNOP
F2       L      6,FILE2
OVRNOP   STC    1,COMPCLC+1
```

```
COMPARE   CLI   0(6),x'E0'
          BE    CHECKIT
COMPCLC   CLC   0(0,5),0(6)     COMPARE  WORD:FILE
          BE    INCRO
          BL    INSERT
          LA    6,22(6)         INCRO INTO FILE
          B     COMPARE
CHECKIT   MVC   WORD(20),WORD-1
          STC   1,*+5
          MVC   WORD,0(5)
          MVC   0(20,6),WORD    SET - UP NEW WORD
          MVC   20(3,6),=X'001CE0'
BAL       CLI   WORD,C'('
          BE    PNOUNBUG
          CLI   NOPN1+1,X'F0'
          BNE   UPTW2
          AP    TW1(3),WON(2)
          B     SCANBAK
PNOUNBUG  L     5,ONE
BUG       CLI   0(5),C','
          BE    LL
          CLI   0(5),C';'
          BE    LL
          CLI   0(5),C':'
          BE    LL
         CLI   0(5),C'-'
          BE    LL
          ST    5,ONE
          B     SCANBAK
LL        LA    5,1(5)
          B     BUG
UPTW2     AP    TW2(3),WON(2)
*
*
SCANBAK   EQU   *
*
*
          L     5,ONE
LLA       LA    5,1(5)
          CLI   0(5),X'40'
          BE    LLA
NOPLAST   NOP   GETALINE        LINE SCAN COMPLETED
          B     SCAN
*
*
INCRO     EQU   *
*
*
          LA    7,1(1,6)
          CLI   0(7),X'40'
          BNE   INSERT          FALSE EQUAL (A & ABOUT FOR EX.)
          AP    20(2,6),WON(2)
          B     BAL             UP TW & B SCANBAK
```

```
INSERT   MVC   WORD(20),WORD-1
         STC   1,*+5
         MVC   WORD,0(5)
         MVC   B(20),WORD
         MVC   B+20(2),WON       INITIATE COUNTER
         NOPR  0
SERIES   MVC   A(22),0(6)
         MVC   0(22,6),B
         CLI   B,X'E0'
         BE    BAL               UP TW & B SCANBAK
         MVC   B(22),22(6)
         MVC   22(22,6),A
         CLI   A,X'E0'
         BE    BAL               UP TW & B SCANBAK
         LA    6,44(6)
         B     SERIES
*
*
EOL      MVI   NOPLAST+1,X'F0'
         L     1,=A(LINEND)
         L     1,0(0,1)
        ST    1,ONE
         LA    1,1(1)
GOEOLGO  B     WWGO
*
*
* A N A L Y S I S   S E C T I O N
*
*
EOF      EQU   *
         NOPR  0
         NOPR  0
         NOPR  0
         PUT   GG,L1,32
NOPEOF   NOP   SECOND
         MVI   NOPEOF+1,X'F0'
         L     3,FILE1
         L     4,ACONS1
         L     5,ACONS1+4
         B     EOFGO
SECOND   MVI   NOPDW+1,X'F0'
         L     3,FILE2
         L     4,ACONS2
         MVI   DOSECOND+1,X'F0'
         L     5,ACONS2+4
EOFGO    MVC   L3+32(15),0(4)
         PUT   GG,L3,57
         PUT   GG,L2,64
*
*
```

```
*
*
*  PRINT OUT FILES
*
EOFDOIT  EQU   *
*
*  PRINT BEGINS
*
         MVI   LINE-1,X'40'
         MVC   LINE(80),LINE-1       CLEAR`LINE
         MVC   LINE+5(20),0(3)       FILL WORD
         UNPK  LINE+33(4),20(2,3)    UNPACK COUNTER
         OI    LINE+36,X'F0'
         XC    D1(8),D1
         MVC   D1+2(2),20(3)
         MVC   D2+1(3),0(5)
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+53,QUO
         LA    10,NOPDW
PUTER    PUT   GG,LINE,80
         MVC   LINE(80),LINE-1
         BR    10
NOPDW    NOP   DW2
         CLI   0(3),C'('
         BE    UP3
         AP    TDW1(2),WON(2)
         B     UP3
DW2      CLI   0(3),C'('
         BE    UP3
         AP    TDW2(2),WON(2)
UP3      LA    3,22(3)
         CLI   0(3),X'E0'
         BNE   EOFDOIT          CONTINUE DOWN FILE
DOSECOND NOP   END2             DO TOTALS FOR KW-2
*
         LA    3,ACONS1         ADDRESS ARRAY OF TOTALS
*
TOTAL    MVC   LINE(14),=C'TOTAL WORDS BY'
         L     7,0(3)
         MVC   LINE+16(15),0(7) KW NAME
         L     4,4(3)           TW1
         UNPK  LINE+32(5),0(3,4)
         OI    LINE+36,X'F0'
         MVC   LINE+38(16),=C'DIFFERENT WORDS='
         L     5,8(3)           TDW1
         UNPK  LINE+54(3),0(2,5)
         OI    LINE+56,X'F0'
         MVC   LINE+57(12),=C' DIFF/TOTAL='
         XC    D1(8),D1
         MVC   D1+2(2),0(5)
         MVC   D2+1(3),0(4)
         BAL   10,DIVID
         STC   1,*+5
          MVC    LINE+70,QUO
         BAL   10,PUTER
*
*  LINE TWO
*
         MVC   LINE(12),=C'SENTENCES BY'
         MVC   LINE+13(15),0(7)
         L     8,12(3)             TOTAL SENTENCES
         UNPK  LINE+29(3),0(2,8)
         OI    LINE+31,X'F0'
         MVC   LINE+32(28),=C' AVERAGE NO. WORDS/SENTENCE='
         XC    D1(8),D1
         MVC   D1+1(3),0(4)
         MVC   D2+2(2),0(8)
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+60,QUO
         BAL   10,PUTER
*
*LINE  3
*
         MVC   LINE(12),=C'RESPONSES BY'
         MVC   LINE+13(15),0(7)    KEY WORD
         L     9,16(3)
         UNPK  LINE+29(3),0(2,9)   TOTAL KEYWORDS
         OI    LINE+31,X'F0'
         MVC   LINE+33(31),=C'AVERAGE SENTENCES PER RESPONSE='
         XC    D1(8),D1
         MVC   D1+2(2),0(8)
         MVC   D2+2(2),0(9)
         BAL   10,DIVID
         STC   1,*+5
          MVC    LINE+64,QUO
         BAL   10,PUTER
*
*  LINE 4
*
         MVC   LINE+33(27),=C'AVERAGE WORDS PER RESPONSE='
         XC    D1(4),D1
         MVC   D1+1(3),0(4)
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+60,QUO
         BAL   10,PUTER
*
*  LINE 5
*
         MVC   LINE(23),=C'PERCENTS CONTRIBUTED BY'
         MVC   LINE+24(15),0(7)    KEYWORD
         MVC   LINE+40(19),=C'TO TOTAL INTERVIEW:'
         BAL   10,PUTER
         ZAP   TOTALS(3),TW1(3)
         AP    TOTALS(3),TW2(3)
         XC    D1(8),D1
         MVC   D1+1(3),0(4)
         MVC   D2+1(3),TOTALS
         MVC   LINE(80),LINE-1
         MVC   LINE(6),=C'WORDS='
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+6,QUO
         BAL   10,PUTER
*
         MVC   LINE(10),=C'SENTENCES='
         ZAP   TOTALS(2),TS1(2)
         AP    TOTALS(2),TS2(2)
         XC    D1(8),D1
         MVC   D1+2(2),0(8)
         MVC   D2+2(2),TOTALS
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+10,QUO
         BAL   10,PUTER
*
         MVC   LINE(10),=C'RESPONSES='
         ZAP   TOTALS(2),TK1(2)
         AP    TOTALS(2),TK2(2)
         MVC   D1+2(2),0(9)
         MVC   D2+2(2),TOTALS
         BAL   10,DIVID
         STC   1,*+5
         MVC   LINE+10,QUO
         BAL   10,PUTER
ALLNOP   NOP   ALLDONE
         MVI   ALLNOP+1,X'F0'
         B     EOF
NOFILE   MVC   LINE(80),LINE-1
         MVC   LINE(23),=C'NO NARRATIVE FILE FOUND'
         BAL   10,PUTER
ALLDONE  EQU   *
CAT      CATALOG GG,X,ERROR=UNSUC
*   EXIT SVC
         SVC   0
UNSUC    PUT   PO,UNSUCMSG,L'UNSUCMSG
         MVC   CAT+4(12),OR
         GET   PI,CAT+4,12
         B     CAT
*
*
*
*
END2     LA    3,ACONS2
         B     TOTAL
```

```
*
* HOME GROWN DIVIDE ROUTINE
*
*
DIVID    MVC   QUO(75),QUO-1
         STM   5,9,HOLDIT
         XC    DUB1(24),DUB1
         MVI   BACKNOP+1,X'00'
         MVC   DUB1+12(4),D1
         MVC   DUB2+4(4),D2
         LA    7,4
         LA    8,QUO
BACKDI   DP    DUB1(16),DUB2(8)
         UNPK  HOLDER(15),DUB1(8)
         OI    HOLDER+14,X'F0'
         LA    5,14
         LA    6,HOLDER
HOLDBAK  CLI   0(6),C'0'
         BNE   GOHOLD
         LA    6,1(6)
         BCT   5,HOLDBAK
GOHOLD   STC   5,*+5
         MVC   0(0,8),0(6)
         LA    8,1(5,8)
BACKNOP  NOP   GODI
         MVI   BACKNOP+1,X'F0'
         MVI   0(8),C'.'
         LA    8,1(8)
GODI     MP    DUB1+8(8),TEN(2)
         XC    DUB1(8),DUB1
         BCT   7,BACKDI
         S     8,=A(QUO)
         LA    9,1(8)
*
* HOME-MADE PUT
*
         LR    1,9
         BCTR  1,0
         LM    5,9,HOLDIT
         BR    10
DUB1     DS    2D
DUB2     DS    D
         DC    X'40'
QUO      DS    CL75
TEN      DC    X'010C'
*
*******************************************************
********************************************************
DSNMESSS DC    C'ENTER TEXT FILE NAME'
SAVEAREA DS    18F
HOLDIT   DS    5F
HOLDER   DS    CL15
TITLEMSG DC    C'ENTER TITLE OF REPORT'
```

```
DSNMESS   DC   C'OK DOCTOR, ENTER TEXT FILE'
DSN       DC   12X'40'
          DC   X'00'
LINE      DC   130X'40'
          DC   15X'40'
NAMEMESS  DC   C'ENTER KEY-WORDS - ONE TO A LINE'
NAME1     DC   15X'40',X'000C'
NAME2     DC   15X'40',X'000C'
FILE1     DC   A(F)
FILE2     DC   A(F+22000)
OR        DC   130X'40'
LCNT      DS   H
ONE       DS   F        RESCAN STARTING ADDRESS
TABBD     DC   64X'00'
          DC   X'40'      BLANK
          DC   10X'00'
          DC   X'4B'      DOT
          DC   14X'00'
          DC   X'5A'      ! - EXCLANATION MARK
          DC   20X'00'
          DC   X'6F'      ? - QUESTON MARK
          DC   144X'00'
ABCTAB    DC   193X'00'
          DC   9X'FF'     CAPITAL A - I
          DC   7X'00'
          DC   9X'FF'     CAPITAL J - R
          DC   8X'00'
          DC   8X'FF'     CAPIAL S - Z
          DC   22X'00'
          DC   X'40'
WORD      DS   CL20
WON       DC   X'001C'
          DC   X'40'
A         DS   CL22
B         DS   CL22
SENCNT    DC   X'000C'
NAM1LN    DS   H
NAM2LN     DS  H
LINEND    DS   F
TESTBYT   DS   CL1
TOTALS    DC   X'00000C'
TDW1      DC   X'000C'
TDW2      DC   X'000C'
TW1       DC   X'00000C'
TW2       DC   X'00000C'
TS1       DC   X'000C'
TS2       DC   X'000C'
TK1       DC   X'000C'
TK2       DC   X'000C'
L1        DC   5X'40',C'TITLE:',22X'40'
L2        DC   5X'40',C'ALPHABETIC LISTING',10X'40',C'FREQUENCY'
```

```
         DC    11X'40',C'PROBABILITY'
L3       DC    20X'40',C'ANALYSIS OF',17X'40',C'RESPONSES'
D1       DS    F               DIVIDEND
D2       DS    F               DIVISOR
DOUBLE   DS    D
ACONS1   DC    A(NAME1)
         DC    A(TW1)
         DC    A(TDW1)
         DC    A(TS1)
         DC    A(TK1)
ACONS2   DC    A(NAME2)
         DC    A(TW2)
         DC    A(TDW2)
         DC    A(TS2)
         DC    A(TK2)
CATNAME  DC    C'WHAT WOULD YOU LIKE TO CALL THE OUTPUT REPORT?'
THEREMSG DC    C'DATASET NAME ALREADY USED.  SHALL I DESTROY IT?'
ANS      DC    3X'40'
UNSUCMSG DC    C'UNSUCCESSFUL CATALOG'
         LTORG
F        EQU   *
         ORG   F+44000
         END
>
```

APPENDIX F

CRITERION TESTS

SCIENCE AND HUMAN BEHAVIOR

Select the best response to each item. Indicate the response you have selected by making a black pencil mark in the appropriate section of the answer sheet provided.

1. On a cumulative record, the slope of the line indicates *****, and the hash marks or pips usually indicate *****.
   1. number of responses; reinforcements
   2. rate of responses; time segments
   3. rate of responding; reinforcements
   4. elapsed time; reinforcements
   5. rate of reinforcement; elapsed time

2. ***** behavior is strongly influenced by the consequences of previous similar responses, whereas ***** behavior depends upon a preceding stimulus.
   1. respondent; voluntary
   2. operant; reflex
   3. unconditioned; conditioned
   4. punished; unpunished
   5. social; personal

3. In a conditioned reflex, when a conditioned stimulus is repeatedly presented alone, the magnitude of the conditioned response ***** and the latency of the conditioned reflex *****, until ***** is complete.
   1. increases; decreases; conditioning
   2. increases; increases; generalization
   3. decreases; decreases; extinction
   4. increases; increases; conditioning
   5. decreases; increases; extinction

4. When a child is reinforced for appropriate social behavior, the reinforcing stimulus occurs immediately ***** the appropriate response, and the ***** at which this class of responses is ***** increases.
   1. before; intensity; emitted
   2. before; rate; elicited
   3. after; rate; elicited
   4. before; frequency; reinforced
   5. after; rate; emitted

5. Turning off a boring TV commerical is reinforced by termination of a ***** reinforcer; turning on a very funny program is reinforced by the presentation of a ***** reinforcer.
   1. negative; positive
   2. positive; negative
   3. positive; positive
   4. negative; negative
   5. unconditioned; conditioned

6. Conditioned operants are eliminated in two contrasting ways: the response is emitted without reinforcement in the process called *****; but is not emitted in the process called *****.
   1. extinction; punishment
   2. extinction; forgetting
   3. forgetting; extinction
   4. punishment; extinction
   5. punishment; forgetting

7. Many so-called traits ascribed to individuals (aggressiveness, persistence, friendliness, etc.) are simply alternate ways to describe an individual's ***** of emitting certain classes of behavior.
   1. probability
   2. frequency
   3. likelihood
   4. rate
   5. all of the above

8. In conditioning a reflex, as the number of pairings of the conditioned and unconditioned stimuli increases, the latency of the conditioned reflex ***** and the magnitude of the conditioned response *****, until both reach a limit.
   1. increases; decreases
   2. decreases; increases
   3. increases; increases
   4. decreases; decreases
   5. none of the above

9. The experimenter deliberately arranges reinforcement to increase the rate of key pecking behavior but superstitious behavior is conditioned by ***** reinforcement.
   1. accidental
   2. serendipitous
   3. contingent
   4. automatic
   5. positive

10. A mother fed her baby when he emitted "coos" but not when he cried. We would expect that crying when hungry would ***** because of the withholding of *****.
   1. occur; attention
   2. increase; punishment
   3. decrease; reinforcement
   4. extinguish; punishment
   5. condition; food

11. When we differentially reinforce successive approximations to a final form of behavior we are *****.
   1. chaining
   2. conditioning
   3. discriminating
   4. shaping
   5. negatively reinforcing

12. The pairing of two stimuli is necessary for conditioning ***** behavior whereas ***** behavior is conditioned by ***** consequences of its emission.
    1. reflex; operant; gratifying
    2. operant; reflex; any
    3. verbal; non-verbal; immediate
    4. reflex; involuntary; delayed
    5. involuntary; respondent; gratifying

13. In shaping any given behavior, we gradually change the criterion for reinforced responses. The desired behavior is approached by *****.
    1. classical conditioning
    2. cognitive learning
    3. reflex action
    4. successive approximation
    5. operant discrimination

14. Two ways of effectively controlling inappropriate conditioned behavior are: to ***** it by withholding reinforcement, or to condition some *****.behavior.
    1. punish, appropriate
    2. extinguish; appropriate
    3. extinguish; incompatible
    4. ignore; other
    5. punish; reflex

15. You will not continue to work if your pay checks "bounce" because the ***** generalized reinforcing effect of such checks disappears in *****.
    1. rewarding; punishment
    2. reinforcing; negative reinforcement
    3. continuous; time
    4. conditioned; extinction
    5. conditioned; punishment

16. The professional winetaster can make very fine *****. He shows little ***** among various wines.
    1. responses; favoritism
    2. discriminations; preference
    3. discriminations; generalization
    4. generalizations; discrimination
    5. responses; generalization

17. Availability of reinforcement depends on the passage of time in ***** schedules and on the number of responses in ***** schedules.
    1. continuous; intermittent
    2. interval; ratio
    3. ratio; interval
    4. intermittent; continuous
    5. simple; complex

18. Each stimulus in a chain has the dual function of ***** the response it follows and being a(n) ***** for the response it precedes.
    1. reinforcing; discriminative stimulus
    2. conditioning; extinguisher
    3. reinforcing; negative reinforcer
    4. Extinguishing; positive reinforcer
    5. extinguishing; discriminative stimulus

19. Responses reinforced by the generalized reinforcers of affection, approval and attention are often extinguished very ***** because reinforcement has occurred ***** due to the subtlety of the stimuli.
    1. quickly; regularly
    2. quickly; intermittently
    3. slowly; regularly
    4. slowly; intermittently
    5. quickly; irregularly

20. If a bright light is often presented when a response is reinforced, a light of medium intensity should produce a rate of responding ***** than that of the bright light and ***** than that of a very faint light.
    1. lower; higher
    2. higher; lower
    3. lower; lower
    4. higher; higher
    5. not different; different

21. In operant discrimination we speak of a three term contingency. Events are arranged in this order: present the *****, wait for the ***** and *****.
    1. response; stimulus; reinforce
    2. reinforcer; response; stimulate
    3. reinforcer; stimulus; respond
    4. stimulus; response; discriminate
    5. stimulus; response; reinforce

22. In establishing a discrimination, a response is ***** in the presence of one stimulus and ***** in the presence of another stimulus.
    1. punished; not punished
    2. shaped; chained
    3. chained; shaped
    4. elicited; not elicited
    5. reinforced; not reinforced

23. When a response is under the control of a single property of a stimulus (which cannot exist alone) we call it a(n) *****.
    1. discrimination
    2. generalization
    3. conditioned operant
    4. abstraction
    5. chained operant

24. When paired with several unconditioned reinforcers appropriate to various deprivations, a conditioned reinforcer will be effective under several types of *****. Such a reinforcer is called a ***** reinforcer.
    1. conditioning; secondary
    2. deprivation; primary
    3. deprivation; generalized
    4. conditioning; positive
    5. deprivation; negative

25. Intermittently ***** temper tantrums makes them very ***** to extinguish.
    1. punishing; easy
    2. reinforcing; difficult
    3. reinforcing; easy
    4. punishing; difficult
    5. ignoring; easy

26. Response magnitude varies closely with stimulus intensity in the case of ***** behavior, but much less so in the case of ***** behavior.
    1. reinforced; punished
    2. reflex; operant
    3. operant; reflex
    4. voluntary; involuntary
    5. operant; voluntary

27. The operant called "buying candy from a vending machine" is composed of many stages or parts integrated as a ***** of stimuli and responses.
    1. shaping
    2. reflex
    3. discrimination
    4. chain
    5. schedule

28. An organism may emit the same responses to two fairly similar stimuli when only one of them has been presented during reinforcement. The term for this phenomenon is *****.
    1. generalization
    2. discrimination
    3. abstraction
    4. stimulus confusion
    5. response confusion

29. In drawing a copy of a picture only those movements which produce a likeness are reinforced; thus reinforcement is *****.
    1. intermittent
    2. continuous
    3. differential
    4. shaped
    5. chained

30. In teaching a child to copy a letter of the alphabet we do not wait for a perfect letter. We ***** movements which produce lines fairly similar to the letter but ***** movements which produce lines very different from the letter being copied.
    1. reward; punish
    2. positively reinforce; negatively reinforce
    3. ignore; punish
    4. reinforce; punish
    5. reinforce; do not reinforce

31. A pigeon reinforced with food for pecking a key while a green light is lit but not reinforced while a red light is on will peck a second key which delays the appearance of *****.
   1. the green light
   2. the red light
   3. food
   4. both lights
   5. conflicting stimuli

32. Punishment does not ***** a response. Rate of responding temporarily *****, in part, because punishment and the resulting conditioned aversive stimuli generate *****.
   1. condition; increases; fear
   2. extinguish; increases; anxiety
   3. condition; decreases; anxiety
   4. extinguish; decreases; anxiety
   5. extinguish; increases; rewards

33. Operant behavior which postpones an unconditioned aversive stimulus is called ***** behavior. Behavior which terminates an unconditioned aversive stimulus is called *****.
   1. avoidance; escape
   2. escape; avoidance
   3. adaptive; maladaptive
   4. escape; negatively reinforced
   5. avoidance; punished

34. In the activation syndrome, inhalation *****, bronchioles *****, and adrenalin secretion *****.
   1. increases; dilate; decreases
   2. decreases; constrict; increases
   3. increases; dilate; increases
   4. increases; constrict; increases
   5. decreases; dilate; decreases

35. The activation syndrone would usually be biologically ***** to a cave man, and it would be biologically ***** to a public speaker.
   1. voluntary; involuntary
   2. involuntary; voluntary
   3. necessary; necessary
   4. harmful; useful
   5. useful; harmful

36. A given emotion is ***** by the ***** which serve as reinforcers and by the increased probability of a group of *****.
   1. defined; responses; feelings
   2. elicited; stimuli; responses
   3. identified; consequences; stimuli
   4. elicited; feelings; reflexes
   5. defined; stimuli; responses

37. The teacher who uses strong aversive control to get students to study may ***** the probability that they will study after graduation.
   1. increase
   2. ignore
   3. decrease
   4. maximize
   5. not affect

38. A person "can't remember" a very aversive childhood experience. This is called *****. It can be interpreted as engaging in other responses which ***** thinking about the aversive experience.
   1. regression; avoid
   2. displacement; discourage
   3. sublimation; compete with
   4. repression; interfere with
   5. projection; inhibit

39. In the presence of a conditioned aversive stimulus, a food-reinforced response is emitted more ***** and a response with an avoidance history more *****. These and similar changes define *****.
   1. slowly; rapidly; anxiety
   2. slowly; rapidly; extinction
   3. slowly; rapidly; reconditioning
   4. rapidly; slowly; fear
   5. rapidly; slowly; neurosis

40. The exhilarating emotional reaction from riding a roller coaster or jumping in a parachute is a reaction to stimuli which are usually ***** but in these instances are *****.
   1. uncontrolled; controlled
   2. accidental; deliberate
   3. punished; fearful
   4. natural; planned
   5. aversive; reinforcing

41. In a functional relationship there is an observed systematic relationship between *****.
   1. an independent variable and a dependent variable
   2. two independent variables
   3. two dependent variables
   4. any two variables
   5. a variable and a constant

42. In counseling, a client sometimes manifests strong love or hate toward his counselor. This phenomenon is called ***** and can be interpreted as an example of *****.
   1. reaction-formation; counter conditioning
   2. displacement; abstraction
   3. transference; stimulus generalization
   4. projection; satiation
   5. regression; avoidance behavior

43. The goal of a science of behavior is to be able to *****, ***** and ***** the behavior of living organisms.
   1. condition; extinguish; maintain
   2. control; predict; interpret
   3. punish; reward; facilitate
   4. measure; analyze; explain
   5. explain; catalog; document

44. A counselor frequently tries to change a client's behavior by acting as a(n) ***** and thereby the aversive properties generated by previously punished responses become *****.
   1. judge; analyzed
   2. expert; interpreted
   3. non-judgmental audience; extinguished
   4. discriminative stimulus; conditioned
   5. teacher; shaped

45. A word which "expresses multiple meanings" is controlled by *****.
   1. a single discriminative stimulus
   2. a single generalized reinforcer
   3. many responses
   4. many stimuli
   5. a single stimulus and a single response

46. When a dog stands "not too close and not too far" from a strange object, its behavior illustrates *****. When it approaches, jumps back, approaches, jumps back, approaches, etc., it demonstrates *****.
   1. respondent conditioning; ambivalence
   2. operant conditioning; avoidance behavior
   3. neutrality; approach-avoidance behavior
   4. fear; approach behavior
   5. algebraic summation; occilation

47. Inadequate self knowledge may result because we have not yet been ***** to notice some aspect of our behavior or because we engage in behavior which is ***** noticing this behavior.
   1. conditioned; incompatible with
   2. told; extinguished by
   3. made anxious; punished by
   4. reinforced; conditioned by
   5. punished; reinforced for

48. A mother slaps her child's hand everytime he touches the TV--which makes him cry and withdraw his hand. Now he cries at the sight of the TV and refuses to touch it. In this situation, the TV is the *****; the slap is the *****; crying and hand withdrawal are the *****; whereas, refusal to touch the TV is the *****.
   1. CR; CS; UCS; UCR
   2. CS; UCS; UCR; CR
   3. CS; CR; UCS; UCR
   4. UCS; UCR; CR; CS
   5. CR; UCS; UCR; CR

49. In a reflex, the ***** of a stimulus is the intensity which is barely sufficient to ***** a(n) *****.
   1. magnitude; condition; response
   2. frequency; condition; reflex
   3. threshold; elicit; response
   4. value; reinforce; response
   5. conditionability; elicit; response

50. Independent of the specific deprivation state present at the moment a(n) ***** reinforcer can be used to condition a new response.
   1. good
   2. primary
   3. unconditioned
   4. conditioned
   5. generalized

AN ANALYTICAL PROBLEM SOLVING STYLE OF COUNSELING

Select the best response to each item. Indicate the response you have selected by making a black pencil mark in the appropriate section of the answer sheet provided.

1. The client states, "I have always had difficulty getting along with people." The most appropriate counselor response would be:
   1. Do you still have difficulty getting along with people?
   2. Let's examine the reasons for your difficulty in getting along with people.
   3. You probably have difficulty getting along with people because you tend to be aggressive.
   4. You have difficulty getting along with people now.
   5. You can learn to relate to people. You could get out and socialize more or you might profit from joining a sensitivity group.

2. The client says, "My father used to beat me all the time." The most appropriate counselor response would be:
   1. Your father still beats you all the time.
   2. Does your father beat you now?
   3. Let's talk about the reasons why he beats you.
   4. You don't have to take that. You could move out or you could report him for cruelty.
   5. Your father probably beat you because he wanted you to learn to behave properly.

3. The client says, "I've never been able to do math." The most appropriate counselor response would be:
   1. You can learn to handle math. Remedial tutoring might help you or you could repeat the basic course and get a better foundation.
   2. You probably have difficulty in math because of your low abstract thinking ability.
   3. You still are not able to do math.
   4. Do you have trouble with arithmetic or just algebra?
   5. You've never been able to do math.

4. The client says, "I used to wish I could be the smartest kid in the class." The most appropriate counselor response would be:
   1. You could be the smartest kid in the class if you really applied yourself.
   2. Let's talk about the reason you wished you could be the smartest kid in the class.
   3. You probably wanted to be the smartest in the class because deep inside you felt inferior.
   4. You wish you could be the smartest kid in the class now.
   5. Do you still feel this way?

5. The client states, "I guess I have always felt guilty and jittery." The most appropriate counselor response would be:
   1. That's probably because of an infantile conflict you haven't resolved.
   2. Let's explore the reasons for these feelings.
   3. You feel guilty and jittery now.
   4. You can overcome these feelings. You could practice affirming positive things about yourself and review your good points and accomplishments.
   5. Guilty and jittery.

6. The client says, "I used to like school, do well, but now I hate to come here." The most appropriate counselor response would be:
   1. Let's explore the reasons why things are different now.
   2. Now you hate to come here.
   3. You think you hate school now only because it interferes with other interests.
   4. You used to like school and do well but now you hate it.
   5. You could learn to like school or if you really hate it, you could quit.

7. The client says, "I used to be so upset when a teacher criticized me, but now its just a big joke." The most appropriate counselor response would be:
   1. You've apparently learned to live with criticism.
   2. You feel its a big joke because its easier to laugh it off than to admit that criticism hurts you inside.
   3. Let's talk about the reasons teachers criticize you.
   4. Criticism used to upset you.
   5. Now you feel its just a big joke.

8. The client says, "My father used to bug me but now its my mother who nags all the time." The most appropriate counselor response would be:
   1. Now its your mother who nags all the time.
   2. Let's talk about the reasons that your parents bother you.
   3. Hm-hmm.
   4. What does your mother nag you about?
   5. You feel this way because of the generation gap. Things will work out; you can count on it.

9. The client says, "At first I was real homesick here but things are getting better all the time." The most appropriate counselor response would be:
   1. Let's examine the reasons for your homesickness.
   2. I guess all freshmen are homesick at first.
   3. Because you are getting acquainted with new friends it's not so lonely here.
   4. Things are getting better now.
   5. What's different now than when you first came here?

10. The client says,"I used to fight the system here but now I find its easier just to ignore it." The most appropriate counselor response would be:
    1. Let's explore your reasons for fighting the system.
    2. Ignoring it is just denying reality.
    3. Now you find its easier just to ignore it.
    4. You could adjust to the system. You could participate, contribute and try to change those things that trouble you.
    5. Because things didn't suit you, you just went from one extreme to the other.

11. The client says, "I'm mad as hell." The most appropriate counselor response would be:
    1. Let's explore the reasons for your anger.
    2. You feel hostile.
    3. Tell me more about it.
    4. You're mad because something has frustrated you.
    5. You can control your emotions. You can count to ten, take a walk around the block or tell me about it.

12. The client says, "I am shy. I just can't get to meet people easily." The most appropriate counselor response would be:
    1. You're having trouble meeting people now.
    2. You feel shy because you lack self confidence.
    3. Let's talk about the reasons for your shyness.
    4. You can lick that problem. You could join a few clubs, talk with people in your classes, even go out of your way to say "Hello" to people.
    5. You feel shy now.

13. The client says, "You're just like my father. You're against me too." The most appropriate counselor response would be:
    1. You feel that way because my physical appearance reminds you of your father.
    2. You feel I'm against you too.
    3. Let's analyze the reasons you think I'm against you.
    4. You feel we're both against you.
    5. Why do you feel I'm against you.

14. The client says, "There's no hope. Everything is going wrong; it's getting worse all the time." The most appropriate counselor response would be:
    1. You're just discouraged right now, but things will get better. Come on, cheer up.
    2. It's getting worse all the time.
    3. Uh-huh.
    4. Why do you feel things are getting worse?
    5. Let's talk about the reasons that you feel so hopeless.

15. The client states, "I feel great, there's nothing I can't do." The most appropriate counselor response would be:
  1. I told you that we could work things out together.
  2. Tell me about the reason you feel so great.
  3. That's ridiculous.
  4. Well.
  5. You feel great because you have overcome the frustrations that have been bugging you.

16. The client states, "Sure I drive fast and burn rubber but when I don't everybody ignores me". The most appropriate counselor response would be:
  1. You drive fast and burn rubber.
  2. When you don't drive recklessly everybody ignores you.
  3. Because people ignore you when you drive safely, you drive fast and burn rubber to get attention.
  4. Let's explore the reasons why you drive fast and burn rubber.
  5. Do you think that fast driving and screeching tires impress them?

17. The client says, "I don't have much of a social life; the girl I want to date won't even talk with me." The most appropriate counselor response would be:
  1. Because you can't date the girl you want you don't date at all.
  2. You can lick that problem. Date others and make her jealous then she'll date you.
  3. Let's talk about the reasons this one girl is so important.
  4. She won't even talk with you.
  5. You don't have much of a social life.

18. The client says, "I'm a leader in the protest movement; it's great, it's important; nobody paid any attention to me before." The most appropriate counselor response would be:
  1. People pay attention to you now.
  2. Let's talk about the reasons you think its important.
  3. You could become a national figure if you continue these activities.
  4. Because nobody paid any attention to you before, you feel that being a leader in any group is great and important.
  5. It feels good to be a leader.

19. The client says, "That rotten science teacher gave me a 'C'; I want to change my major." The most appropriate counselor response would be:
  1. What would you like to change to?
  2. Let's explore the reasons for your anger at the science teacher.
  3. Because the science teacher gave you a "C", you want to change your complete program.
  4. You want to change your major now.
  5. How do your parents feel about such a change?

20. The client says, "My brother dropped out of school and makes good money so I think I'll quit too." The most appropriate counselor response would be:
    1. Your brother was lucky.
    2. You want to quit because you think you will make good money like your brother.
    3. You want to quit school now.
    4. What is your brother doing?
    5. Let's explore the reasons why you think you'll make good money.

21. The client says, "Well that's my problem, I'm trapped in a dead end job but I don't know what to do." The most appropriate counselor response would be:
    1. Let's examine the reasons you feel trapped.
    2. You don't know what to do now.
    3. Because you're trapped in a dead end job you don't know what to do.
    4. You can lick this problem. You can talk with the boss and see if you are really trapped; if so, check the want ads or check with an employment agency.
    5. What makes you feel trapped?

22. The client says, "Well that's my problem, I can't give up drugs but I'm afraid I'll get busted." The most appropriate counselor response would be:
    1. You can lick this, others have. I could refer you to the local clinic. Withdrawal at the clinic is a lot better than being busted.
    2. Because you can't give up drugs you're afraid of being busted.
    3. Let's examine the reasons you think you can't give up drugs.
    4. You're on drugs now.
    5. I'm sorry I don't deal with drug cases.

23. The client says, "Its a real problem, I really can't stand this guy but he haunts me, and threatens to beat up anyone else I date." The most appropriate counselor response would be:
    1. If he feels that strongly about you why not go out with him?
    2. Because he haunts you and threatens to beat up your dates, you just can't stand this guy.
    3. You don't have to put up with that. You could talk with your parents about it, perhaps contact his parents and if necessary you could contact the police.
    4. Let's examine the reasons for his behavior.
    5. This guy still haunts and threatens you.

24. The client says, "I don't know what to do, I want a career in medicine but I know now I'll never pass a pre-med course." The most appropriate counselor response would be:
   1. Let's explore your reasons for wanting a career in medicine.
   2. You still want a career in medicine.
   3. Because you want a career in medicine but know you'll never pass a pre-med course you don't know what to do.
   4. You can solve that problem. Not all careers in medicine demand a pre-med course. You could become a male nurse, a laboratory technician, an x-ray technician, a hospital administrator, there are many possibilities.
   5. Medicine isn't the only career, why not explore some others.

25. The client says, "So I guess thats it, I'm skillful enough but I'm deformed, ugly; nobody would hire me." The most appropriate counselor response would be:
   1. Because you're deformed and ugly you don't think anyone will hire you.
   2. You still think you're ugly.
   3. Let's examine the reasons you think you're ugly.
   4. You can get a job. People with worse handicaps than you are making important contributions. You recognize you're skillful. Let's check with the local employment office and see what's available in your field.
   5. If you really believed you were skillful, these doubts wouldn't be troubling you.